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AMERICAN MEDICAL LITERATURE

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Fowler, J. S., (44) 1586
Fowler, R. S., (73) 60, (112) 1499, (19) 1891
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Gore, J. K., (127) 598
Gorham, G. H., (40) 468
Gossett, W. B., (84) 525
Gottheil, W. S., (127) 136, (176) 767, *859, (123) 920, (18) 1348
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Gradwohl, R. B. H., (38) 403
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Graham, A. B., (47) 210
Graham, C., (97) 284, (35) 919
Graham, R. F., (116) 598
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Grandy, C. R., (107) 469
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Grant, H. H., (55) 1735
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Grayson, C. P., (146) 767
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Green, H. A., (57) 345
Green, H. L., (75) 1499
Green, O. W., (119) 766
Greene, D., (9) 1206
Greene, E. M., (17) 597
Greenley, T. B., (42) 840, (145) 1143, (58) 1735
Greenley, T. R., *380
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Griffith, J. F., (137) 992
Griffith, F., (26) 597, (7) 1070, (37) 1498
Griffith, J. P. C., (6) 468, (3) 686, (2) 918
Grigg, T. A., (96) 766
Grindon, J., (97) 136, (73) 1424, (133) 1660
Groat, W. A., (107) 841
Groff, J. E., (62) 1660
Gros, E., (120) 598, (142) 920
Grosse, A. B., (115) 687
Grover, F., (70) 1206
Groves, A., (45) 345
Groves, C. A., (75) 1424
Grube, W. W., (113) 1276
Guerard, A. R., (3) 596, (34) 1348
Guiteras, R., (27) 765, (13) 1275
Gunn, J., (68) 1660
Guthrie, F. A., (80) 687
Guthrie, G. W., (73) 525
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Hackler, G. M., (150) 61
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Haig, A., (3) 403, (111) 1735
Haight, A. T., (74) 991
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Haines, W. S., (87) 1348
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Hamburger, L. P., (44) 1142
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Hammond, G. M., (10) 135
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Hardcastle, H., (121) 1349
Hare, C. H., (8) 596
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Harlan, H., (67) 766, (77) 919
Harper, H. W., (120) 688
Harper, W. W., (130) 284
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Harrington, C. D., (146) 841
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Hunner, G. L., (110) 1660
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Hunt, F. W., (65) 1586
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Jacobi, F., (88) 1207
Jacobs, H. B., (25) 283, (98) 841
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Jacobson, N., (111) 211, (1) 596, (41) 919
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Johnston, J. B., (53) 545
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Johnston, J. I., (80) 60
Johnston, W. W., (13) 1498
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Jones, T., (121) 136, (116) 841, (120) 1142
Jopson, J. H., (71) 1348
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Cunningham, C., (92) 1735
Cunningham, W. M., (127) 284, (118) 469
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Da Costa, J. C., (143) 767, (110) 841
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Edgar, J. C., (4) 1070, (100) 1424
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Elliot, J. W., (23) 60
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Elliott, H., (79) 1276
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Fischkin, E. A., (58) 403
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Fletcher, W. H., (39) 524
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Gros, E., (120) 598, (142) 920
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Morris, R. T., (7) 59, (64) 211, (17) 344, *567, (17) 686, (85) 687, (115) 920, (70) 991, (59) 1070, (102) 1207, (117) 1349
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Morton, F. J., (56) 840
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Moschcowitz, A. V., (30) 1275
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Moss, J. M., (115) 1142
Mosse, Dr., (105) 1660
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Moulton, A. R., (4) 918, (47) 1891
Mouser, S. M., (109) 687
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Noble, H. E., (112) 1276
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Oliver, J. C., (20) 135, (81) 1587
Oliver, J. P., (157) 1349
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Parker, C. B., (64) 60
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Pond, E. A., (3) 468
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Roberts, W. H., (132) 841
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Address.

SPECIALTIES AND SPECIALISTS.*

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Specialism is a significant feature of our times and by no means confined to medicine. Few eminent lawyers undertake to practice all phases of jurisprudence; many devote their efforts to one distinct department only. Thus we have the criminal, the patent, the real-estate, the probate, the mercantile, the corporation, and, lastly, but not of the least interest to some physicians, the collection lawyer. Few painters have achieved world-wide fame unless by constant application to a single purpose. Rosa Bonheur and Verboeckhoven have never tired of depicting animals, the Barbizon school has revealed to us the beauties of rural life, Mezdag is known only by his marine pictures, Israel by his frugal interiors, Meissonier by his war scenes, Lenbach and Whistler by their realistic portraits, our own Innes by his inimitable landscapes. In all domains of mental energy, in commerce and the industries, we find specialties. Who can wonder then that the phenomenal development of medicine during the past fifty years has of necessity led, not to its division into as many independent departments as there are different organs in the body, but—comparing it to a tree—to a healthy and strong development of all its branches to a degree where some of them, while still drawing their life-blood from the same old roots, and while still firmly attached to the same old trunk, have grown to imposing dimensions. Specialties in medicine are, therefore, not the arbitrary, capricious, artificial products of the respective specialists, but the legitimate result of increased medical knowledge, the inevitable and irrepressible consequence of evolution.

Some specialties have long ago reached their age of maturity and few of you will question their standing and title to-day. In the majority of good medical schools, here and abroad, there have been for a long time separate chairs of ophthalmology and otology, gynecology, laryngology, neurology and psychiatry, pediatrics and dermatology, although examinations in all these branches were not always obligatory for obtaining a degree. Advisedly I do not mention obstetrics here, for a long time recognized by a special chair, for it is rare that practice is confined to it exclusively; nor would it be proper to call surgery a specialty. Of more recent date are the specialties of rhinology, orthopedic surgery, and genito-urinary surgery. In practice, but hardly in the regular degree-conferring colleges, we have proctology, as it lately has been baptized—not to mention the title of orificial surgery—gastrology, and abdominal surgery. To those of you who in the near future may find an overcrowded state of affairs in most of the specialties just enumerated, I would suggest a few good openings, as follows: Glossology (diseases of the tongue), hepatology (diseases of the liver), nephrology, splenology, pancreatology, thyroidology, onychology (diseases of the nails), etc., ad libitum. The general public, of course, is constantly creating all sorts of specialists, as for instance the specialist for rheumatism, for appendicitis, for intubation, the fever and the catarrh specialists; the complexion and the hair specialist, and so on. Let us not forget one important species, the specialist for everything—the man who never turns anybody from his door, who treats anything and everybody. As varieties of this marvelous category, we might mention the osteopath, the "Christian scientist," the Dowieite, vitopath, hydropath, electropath, and other charlatans.

In view of the tremendous array of specialties just alluded to, some of you might well ask if there is anything left for the general practitioner. To this I would answer: everything. Not only in the smaller communities, but even in the larger centers of population, the historic style of the well-trained, good, all-around, general practitioner will and must remain the backbone, or as my friend Patrick would call it, "the solid Muldoon," of the medical profession, and with the continued improvement in our colleges, this type should attain the highest order of perfection. The general practitioner ought never to collide with the *true* specialist, who, rather than antagonize him, should be his ally in times of need, clearing up a doubtful diagnosis, mapping out a successful line of treatment in difficult cases, always ready to support, never willing to supplant him. The general practitioner will always keep the management of acute diseases, and should be the trusted medical counselor of the household in everything pertaining to hygiene, sanitation, development of children, etc. He will attend to all normal confinements, but will be glad to have his responsibility shared by the expert obstetrician in cases of placenta previa, or face presentation. He will treat the majority of eye affections, but will leave cataract extraction and refined ophthalmoscopic diagnosis to the trained oculist. He will manage all sorts of throat troubles, be prepared for the use of antitoxin against diphtheria, be even ready to perform tracheotomy when emergency arises, but leave intralaryngeal operations and intubations to the skilled laryngologist. And so in all other departments of medicine. But the busy general practitioner will find little time for scientific research work and be content to watch the progress of medicine as an interested and intelligent observer. The bulk of the real work in the science and art of medicine has for years been and will always be done by the pathologist and the clinician respectively, which includes the specialist. And by work I do not mean the writing of journal articles, or the compilation of text-books, but investigation by means of microscope, chemical analysis, animal experimentation and methodical clinical observation on large hospital material, and the publication of such work in appropriate scientific form. Herein I see before everything else, if there is at all need of it, a vindication of the specialties, which are too often unjustly arraigned and held to account for the doings and vagaries of their would-be votaries. The specialties are all right. The specialists are only too often all wrong. The rush to the specialties during the last two decades, particularly in the large cities, has been so impetuous that it naturally resulted in the establishment of a class of mediocre specialists, who often bring discredit on the whole institution of specialism. I have no hesitation in saying that we have too many specialists, but not enough good ones.

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What are the criteria of the true, the ideal specialist? He should be a man with an excellent general preliminary education. This should even include a knowledge of the more important modern languages, an indispensable accomplishment for one who must follow the international medical literature of to-day. He should have had a broad, comprehensive medical training in college and hospital, particularly in pathology. In addition to this, he should have devoted, according to the line of work selected, from two to four years to his special studies, comprising clinical, literary and laboratory work. He should never lose the intimate contact with general medicine, and no matter how small the field of his special labors may be, he should always remain a physician. The true specialist will never become narrow, and I may later on have occasion to illustrate of at least one specialty the many bonds of union by which it is inseparably tied to general medicine. The true specialist can never afford to stop working scientifically. The continued wave of progress in medicine must be closely followed by him, lest he remain behind, and particularly if he should be a teacher we must expect him to be always at the front. In his practice the true specialist should before all be a reliable diagnostician. Acquaintance with the commoner diseases of any organ may safely be expected of any well-trained and fairly experienced general physician. But we have a right to demand from the specialist thorough and easy familiarity with rare and exotic affections also; in other words, in his rôle as a consultant, he should be an expert. Likewise, should he be fully at home in all therapeutic methods and measures pertaining to his specialty. I think it is perfectly fair to insist that a specialist should confine his practice strictly to his chosen department; and yet it is exceedingly difficult to avoid occasional—at least apparent—conflict with other fields. The neurologist finds himself daily confronted with cases requiring the fullest knowledge of the pathology and treatment of syphilis; the syphilographer again must as often be prepared to meet in his patients, nose and throat, eye and nerve disturbances. The throat specialist will find many of his cases to be complicated by bronchial and lung affections, and the oculist may trace many eye troubles to rheumatism, diabetes or other systemic derangements which call for his interference. In all such cases the specialist must show that he has not ceased to be a physician; he should not degrade himself to a mere tool in the hands of his professional constituents. Tact and judgment will, however, easily keep him from treading on the general practitioner's toes.

Shall I attempt to characterize the would-be, the poor or mediocre specialist? An ungrateful, perhaps an ungracious task. Look around you and see the man who is ever ready to present you his card whereon is inscribed "Practice limited to such and such diseases," who "makes a specialty" of this or that—a disgusting expression to me, by the way—who constantly talks to his friends of his cases and the increase of his income; who appears before medical societies to parade with his poorly observed and often misinterpreted cases; who uses every opportunity at such gatherings to get up and talk for no other purpose than to let his audience know that he, too, has seen cases of exactly the nature that the essayist has described, but that in his hands the drug recommended has been of no value, while a formula of his own or a specially devised instrument, which he forgets to describe, have uniformly proved successful; who, with a lot of others of the same genus, but engaged in different departments, forms a sort of a trust for the exchange of cases; and who often enough, let us be frank, holds out all sorts of inducements to general practitioners for the transfer of special cases; to whom his specialty is indeed naught but a milk cow. Such a man probably enters medical college with a firm determination of eventually "making a 'specialty" of a certain class of diseases. While in college he considers everything which is not directly related to his prospective special field, as irrelevant, gets through his medical course easily, about well enough to barely pass his examinations without being plucked. His sheepskin still damp from the signature of the faculty members, he at once goes abroad for special studies in Paris, London, Vienna. These studies are largely devoted to a minute investigation of the most famous cafés, restaurants, theaters and other places of amusement; a few special courses by privatdocents or assistants, given in a poorly understood foreign language, are however, usually taken along, by the way, as it were. Six or twelve months later, this perfect, newly-made specialist arrives home, where his friends have already been prepared by numerous letters of his wonderful attainments abroad, armed with instruments of the latest pattern, declaiming about the very most recent methods of treatment which he is now the only possessor of, and superciliously sneering at the old fogyish Dr. X, whose competitor he starts out to become. Soon enough he succeeds in buying a professorship in the Æsculapian College for Advanced Clinical Medicine, and what seems most remarkable, many members of the profession open their arms to that sort of medical luminary and shower patronage on him. Even soap bubbles rise up; for a time, at least. Do not consider these remarks as exaggerated or slanderous, but take them, I mean you students, as a timely warning. If you, freshmen, have come here with a specialistic bee buzzing in your ears, kill it at once. If you develop during your college studies a special inclination toward some particular branch of medicine, cultivate it as much as you may, without, however, neglecting any other work. Build a strong foundation for your future by earnest devotion to the fundamental studies, anatomy, physiology, chemistry, pharmacology, and lastly, but most important, pathology. You can never build this foundation too massive. Add as the next story of the structure, as it were, the principles of medicine and surgery. Then, if you choose, you may undertake to erect your specialty on the top floor. But this last part of your training for any chosen specialty can not be gotten in a regular medical college, and should not be expected from it. The teaching staff of a high-grade medical school nowadays must, of course, contain quite a number of specialists. You would not be willing to have the most excellent general practitioner lecture to you on neurology, eye diseases, or laryngology. But your teacher of any specialty, if he realizes his position and appreciates your wants, will, with wise discretion, pick out for your instruction from the bewildering mass of material at hand, those subjects which you are most likely to meet in your future daily work. He will treat exhaustively the more common affections, mention without going into technical details the chief features of the rarer diseases, always maintaining the contact with general pathology, always pointing out the relationship to general medicine and surgery. Taught in this way, the study of the specialties in the college will help to broaden you, rather than to detract from your general medical education.

The step into a specialty may be made in various ways. The opinion frequently voiced that in order to become a good specialist one should have spent from five to ten years in general practice is justified in many respects. At the same time it will easily be admitted that two-years' work in a large hospital, going from one service to another, far outweighs the experience acquired in the former. Work in a hospital is, as a rule, more apt to be of a high scientific order, while busy general practice often leads to routine and from its very nature, the constant strain on mind and body unfits its follower for hard scientific work in one particular line. In what manner attendance on hundreds of cases of labor, pneumonia or typhoid fever can benefit the future ophthalmologist or dermatologist I fail to see. I can comprehend the value and am glad to admit the desirability of general practice as a stepping-stone for the neurologist or gynecologist; but the aforementioned opinion is altogether too sweeping when applied to all specialties. I would put much less emphasis on general practice, but much more on ge[illegible] as the essential basic element for all [illegible] real and ideal school for the specialist must be a large clinical material in hospital and dispensary work, with its attached scientific laboratories, under the direction of an experienced master. The man who, without such schooling, dashes into a specialty is likely to use his private patients as a material for his studies—a somewhat questionable procedure. As I said before, it is this kind of would-be specialists who, by their blunders in the first years of their practice, bring discredit on the whole institution. It is this kind of specialists who evoke such bitter criticism as could be heard in that famous discussion before the Chicago Medical Society about two and a half years ago. Some of our most representative men aired their feelings against the prevailing style of specialism then and there, and while most of what was said could easily meet with the heartiest approval of the unbiased hearer, a good deal was harsh and unjust. Listen to a few of those statements: "And yet one finds specialists of the ear who do not treat diseases of the postnasal space and pharynx. Specialists of diseases of the skin whose knowledge of the digestive and excretory organs is limited." And so, in turn, every specialty is taken to account. Further on the same speaker says, referring to autointoxication, malassimilation, etc.: "The above-named conditions give the dermatologist an opportunity to write volumes on skin eruptions with a nomenclature horrifying in degree." Another speaker evidently intent at being humorous said: "Many specialties have but a narrow basis to build on; they are shaped like an inverted pyramid. Some have been built on an instrument or appliance; others on a nomenclature. Gynecology on the speculum; nose and throat on the laryngoscope; genito-urinary on the endoscope and cystoscope; orthopedic surgery on the tenetome and plaster of paris; dermatology on a nomenclature; nervous diseases on electricity; otology on the otoscope and Politzer's air bag."

I must leave it to those representing other branches of medicine to speak for themselves. But I may be permitted to use this opportunity, though somewhat late, to show the injustice of those hits made at dermatology. The fact is that this department was not represented in that discussion.

I do not feel it my province to defend dermatology against any attacks on its right to recognition as a legitimate and most important field for special study and special practice. Dermatology is too proud to defend its raison d'être. For more than fifty years the scientific study of skin diseases has been carried on by an indefatigable lot of workers in all civilized countries with results surpassed only by the more conspicuous and brilliant achievements of modern surgery. To charge dermatology with being little more than a mere aggregation of titles of diseases denotes either ignorance, lack of sympathy or wilful vituperation. Nobody realizes more than we dermatologists that the numerous attempts to classify the various cutaneous disorders after the example of other sciences like botany or zoology, have not proved altogether satisfactory; but the respective labors of a Willan and Bateman at the beginning of this century, of the great reformer, Hebra, in the '50s, of Auspitz, Bronson and Jessner more recently, to mention only a few representative names, have not been entirely lost. They have helped to clear up many a dark spot, to group together many apparently different disorders, to separate others of seeming likeness, but distinct in their essential nature. Our nomenclature may seem indeed "horrifying in degree" to the uninitiated, but to the dermatologist the many titles are nothing but excellent servants, intended to promote universal interchange of ideas and never allowed to become our masters. The names are like the short inscription on a painting, useful for ready reference; behind them stands a mass of pathological, histological and etiological study. Let bacteriology get a few years older and you will have a terminology there which will make us poor dermatologists blush for our comparative insignificance. This sneer at our nomenclature reminds me of the kind of diagnoses that are occasionally made in practice, when the patient is told by his doctor "Oh, this is no cancer, it is just skin disease." Are we to go back to that lovely era of humoral pathology, when indeed it was quite an unnecessary ballast to know anything about cutaneous affections, when finer distinctions and differentiations were superfluous, because any eruption on the skin was looked on merely as the outward sign of an impurity of the blood, when the physician without troubling *himself* much whether his patient had the itch, ringworm, acne or eczema, was ever ready with his purgatives, diuretics and alteratives, poured without aim or choice into the poor victim? Horrifying nomenclature indeed! The 62 volumes of the *Archives for Dermatology and Syphilis*, the 30 volumes of Unna's *Monthly Journal for Practical Dermatology*, the dozens of the French *Annales* and our own *American Journal for Cutaneous Diseases*, not to mention the British and Italian periodicals, contain nothing but discussions as to names. The American Dermatological Association, which convenes annually for its scientific deliberations, the triennial International Congress for Dermatology comprising hundreds of the most eminent physicians and surgeons of all countries, the many smaller national and local special societies have little more to do than to wrangle over names! In the idea of our critics at least.

Can I undertake within the limitations of a short address to signalize the scope, the scientific and practical importance of dermatology? This would be impossible. Permit me to give a few illustrations suggestive of what signal service dermatology has been to general medicine.

Let me remind you that the epoch-making studies of Robert Koch on the nature and etiology of tuberculosis have been primarily undertaken on material furnished by that destructive skin affection which is known as lupus. Long before the discovery of the tubercle bacillus in 1880, clinical observation had made it more than probable that there existed a relationship between that local disease and generalized tuberculosis, statistics undertaken by various observers on large material having demonstrated that in more than 70 per cent. of all cases of lupus there existed simultaneously or followed eventually some other manifestation of tuberculosis. Now, when a new era of pathology had been inaugurated, dermatology eagerly took hold of bacteriological methods and proved quite a number of hitherto misunderstood skin affections to be nothing but forms of local tuberculosis. The well-known scrofulous ulcers of early and adolescent life; the wart-like formations often following infection in post-mortem work and known as verruca necrogenica or anatomical tubercle; the so-called tuberculosis verrucosa cutis, an affection occurring in the form of round, raised, papillomatous patches on the hands of butchers, coachmen and others occupied with diseased cattle; the many accidental ulcerations following infection by the tubercle bacillus, as for instance after circumcision, piercing of the ears, washing of infected linen; the rapidly progressive, ominous ulcers on the lips and in the mouth or other mucous outlets, observed in the last stages of consumption, besides some other rarer skin lesions were thus assigned a sure place in pathology. Much of the modern progress in the knowledge of the nature, the therapeutic and hygienic management of this all-important pandemic disease is justly due to the stimulus furnished by dermatological work. And right now we may hopefully look forward to much better success in our fight against that scourge when the magnificent results achieved in Finsen's light-ray institute at Copenhagen for the treatment of lupus, as well as the distinct effects of the Roentgen rays on the same disease make it more than probable that these, as yet somewhat mysterious agents, may before long be utilized against tuberculosis in other parts of the body.

Another example of the value of dermatological study may be furnished by that ever live and interesting chapter, the malignant and benign new growths. It will be readily admitted that nowhere are the conditions for observation and investigation more favorable than on the external integument, which is so frequently the seat of the various forms of epithelioma, sarcoma and other tumors. The transformation of apparently harmless eczema-like lesions into a most serious form of multiple sarcomas of the skin, better known as mycosis fungoids; the formation of numerous carcinomas on the skin of young subjects, who early in life on a dry and harsh skin develop excessive pigmentations in the form of freckles and many small ectatic blood-vessels, a disease first described by Kaposi as xeroderma pigmentosum and usually affecting several members of the same family; the nature of the so-called senile warts and their tendency to metamorphosis into flat epithelioma; the fact that some forms of cancer may remain local in character for many years and indeed have justly been called benign epithelioma, while others exhibit a most destructive energy and tend to rapid multiplication; the relationship of keloid to cancer; the knowledge of multiple melanotic sarcoma of the skin; the investigation within the last few years of those most interesting tumor-like vegetations due to an inoculation of the yeast fungi and termed blastomycosis; the pronounced influence of the systematic use of arsenic in gradually increasing and large doses on certain forms of multiple tumors, particularly those affecting the lymphatic glands known as pseudo lymphosarcoma, or Hodgkin's disease; the decided effect of Fowler's solution used locally only on some forms of epithelioma, a method not to be undervalued in patients to whom the word operation means untold horrors; these are some of the lessons which have been taught by dermatology.

And what of the earnest and unceasing labor bestowed by dermatologists in all parts of the world on the study of that most fearful disease, not of the skin alone but of all organs alike, leprosy? I do not intend to sound an alarm cry here; but believing as I do in the infectious nature of this disease, I regard it of growing import to us. Only two years ago there assembled in Berlin an international congress solely for the discussion of leprosy, its nature and the best means for its mitigation and extermination. As one result of that conference, I may mention the founding of a special journal for leprology, international in character, and supported by collaborators, mostly dermatologists, in all zones. The discovery of an easily recognizable bacillus in all products of lepra by Hansen, has wonderfully helped to instigate a great deal of scientific research and much has been done in the last few years toward the development of more rational methods of treatment, especially by an antileprous serum, though this is still in the experimental stage.

It is hardly necessary to remind you of the enormous importance of syphilis, a disease which no practitioner of medicine, no specialist, whatever his particular field may be, can afford to ignore, for syphilis spares no organ, no tissue. And need I emphasize the value of dermatology in this respect? Almost all the histological and experimental work in this department, all the descriptive detail, the development of the modern scientific methods of treatment, I refer especially to the employment of mercury in the form of hypodermic injections, is due to the work of the dermatologist and syphilographer. Nor have they neglected the many sociological and hygienic problems which are presented by that disease.

The illustrations just cited refer to diseases of a preeminently cutaneous character. But even in fields of purely clinical medicine, dermatology has often contributed to a better and richer pathological understanding. Take for instance diabetes. Very frequently this disease is first recognized by the dermatologist, to whom the patient is directed on account of the prominence of cutaneous disturbances, which are indeed quite manifold: often a more or less severe itching of the skin; again the appearance of numerous furuncles; occasionally even gangrene in some peripheral part, as for instances the toes; as rarer manifestations, large and peculiar ulcerative patches on the lower limbs, first described by Kaposi as dermatitis diabetica; finally, the formation of innumerable smaller and larger yellowish tumors in the skin known as xanthoma diabeticorum.

Medicine in general and neurology especially will always be under obligation to dermatology for work done in reference to the distinctly trophic or neurotic disturbances of the skin. I need only to refer to herpes zoster, popularly known as shingles, that most interesting disease, whose relationship to pathological alterations of the underlying nerves or nearest ganglia has been proved beyond doubt; to symmetrical gangrene of the toes and the finger tips or other peripheral parts, well known as Raynaud's disease; to the various forms of that strange bullous eruption, pemphigus, which we have strong reasons to attribute to deep-seated nervous changes.

Of much general value is the work done by dermatologists in regard to the various drug eruptions. I am glad to mention in this connection two important publications by American authors, J. C. White of Boston, and P. A. Morrow of New York. The untoward effects of our remedies must ever be kept in mind by the practitioner, and among the foremost of these are cutaneous disturbances. Of the long list of drugs with whose action in this respect we are not quite familiar, I will only mention as of chief interest on account of their frequent and varied employment, the iodin and bromid preparations. That potassium iodid very readily leads to a symptom-complex known as iodism, in which is comprised an eruption of small pustules and papules on the forehead, neck and shoulders, is quite well known. But besides these vulgar and comparatively harmless lesions, it is sometimes responsible, even after minute doses, in people exhibiting a special idiosyncrasy, for an eruption of large, copious bullæ which may cover the hands and the whole face and thus become of serious import. Bromids also produce almost inevitably, after being used for some time, the well-known brom-acne, In addition to this, dermatologists have, however, traced a most peculiar, I might say picturesque, dermatosis to its use. The senior students present to-night may still remember the case of an infant which was brought to our clinic last spring. On the hips and limbs and on the face could be seen sharply configurated, roundish and irregular, fungoid elevations of a pinkish color, with a slight central depression of the individual lesions, which proved to be quite firm, large papules. In spite of the apparent resemblance to infantile eczema of the face the diagnosis of a bromid eruption was promptly made and a statement then elicited from the mother that the child had for some time been subject to, and treated for, some sort of nervous attacks, was sufficient corroboration. We soon learned from inspection of the doctor's prescription, that the child had indeed been taking potassium bromid. The mere suspension of this drug was all that was needed for a cure.

Turning from these more or less clinical sides of cutaneous medicine to its purely scientific aspects, I would willingly submit to the judgment of the histologist and bacteriologist, if dermatology has not done more than its share in the advancement of these respective sciences. It might easily fill the space of a separate paper to show in detail what has been accomplished in this respect, and I will only point to that monumental work of Unna on the histopathology of the skin, a classical volume of over a thousand pages and a lasting testimony to the services of that prolific and suggestive writer and worker.

The proposition advanced in the earlier part of this address that the specialist must always remain a physician, that he must be well versed in general medicine, holds particularly good in the practical work of the dermatologist. The man who would look on the skin as a detached organ and treat its diseases from a narrow standpoint is bound to make a failure of his vocation. True, a large number of skin diseases, pre-eminently those of a purely parasitary origin, a very respectable class, by the way, can and should be managed by topical applications only, no matter how firmly the patient may be convinced that his blood is out of order and how eager he may be to get some purifying medicine. Notions of this kind are largely due to the inspiration drawn from the famous advertisements in our dailies and weeklies, the church papers not excluded. To respond to them borders close on quackery. I find patients in this country, as a rule, quite willing and capable of being enlightened, and it is only very rarely that a conscientious practitioner needs to resort to placebos. In this connection I wish to expose that most reprehensible habit of many physicians to feed every skin disorder, irrespective of its meaning, with arsenic in some form. I am fully aware of the beneficial and often curative action of this drug at the proper time and in the proper place, but given indiscriminately, it is more often harmful than useful, and I can not too strongly denounce its light-handed exhibition.

In the majority of skin diseases, on the other hand, which are met with in daily practice, there is indeed an important field for systematic treatment of the underlying cause. The teaching of Hebra, who in his enthusiasm proclaimed the purely local nature of such affections as eczema and acne, have long ago been discarded by modern dermatologists. The young girl who finds her face covered with blackheads and pimples will in vain try all sorts of soaps, salves and lotions. For while in acne there is a local, often parasitary, and besides this almost always a structural, anatomical element in its make-up, we can invariably ascertain important deviations of the assimilative and eliminative functions from the normal standard, and consequent on these we find often changes in the morphological aspect of the blood. Whoever undertakes to treat acne without the most careful attention to the diet, general hygiene and correction of the conditions just alluded to, will be disappointed.

And so it is with eczema. It may sound ungrateful from one to whom the traditions of that old and venerable school of dermatology at Vienna are still as dear as ever, but I can not help declaring and teaching as a result of unbiased observation and study, that I look on eczema as something more than a mere local catarrh of the skin. Sure enough, many instances of that protean disease are primarily due to some local irritation, and in all probability to some sort of parasite of which Unna has lately shown us quite a variety, since he has himself discarded his former Morococcus. These local forms might better be called dermatitis eczematodes. They are, as a rule, easily managed and no physician ought to lose much sleep over them. True eczema, however, the kind that appears often apparently without any external provocation, that recurs in spite of the most careful local treatment and is liable to persist for years, is due to a multiplicity of constitutional disturbances too varied to permit of enumeration here; disturbances which may be conveniently comprised under the designation of autointoxication. As a classical representative of this category, I might mention gout and its congener rheumatism. Nor should we forget that important type of nervous eczema. These kinds of eczema demand for their relief the most circumspective management, require besides a mastery of a good deal of technical detail as regards the topical treatment, a wide acquaintance with general pathology and general medicine. Mark well, it is the combined local and systemic action in such cases which alone can promise success. Mere reliance on dietetic, hygienic or internal treatment can not succeed in removing the deep-seated anatomic alterations of the skin, which are the result of a chronic catarrhal inflammation in loco, leading to hypertrophy in all the layers of the skin. No more would you undertake in the case of a mature cataract, which is due to diabetes, to clear up the cloudy lens by an antidiabetic diet or expect the disappearance of hemorrhoids, the result of an impeded portal circulation, from stimulation of peristalsis alone.

To put before you still further illustrations in order to show the value and importance of dermatology would be, I fear, too severe a tax on your indulgence. Maybe you have already concluded that dermatological nomenclature is horrifying indeed.

There is only one more point which I can not suppress, for it is always near and dear to my dermatological heart, and though I have urged it time and again without response, I shall never tire of repeating that the American schools of medicine, our own not excluded, and the American hospitals, with very few exceptions, make an altogether too insignificant provision for the cultivation of dermatological studies. When, eleven years ago, this college first established a distinct chair for the teaching of skin diseases, and I was invited to hold one clinical demonstration each week, some of my friends used to discourage me by predicting lack of clinical material and consequent lack of interest on the part of the students. It is with pardonable satisfaction that I look back to the record of dermatological instruction in this school during these eleven years. We have succeeded in building up a clinic, which now justifies daily demonstrations in our dispensary and which is ample to illustrate our regular clinical lectures. The students have invariably shown a keen interest in this branch and have, as a rule, left our school well prepared for the demands of ordinary general practice, while a few have even chosen dermatology as a field for special study in which to-day they are conscientious and faithful workers. But I hope for still better work, particularly in the direction of hospital and laboratory facilities. It is invidious to draw comparisons, and almost humiliating to look over to such places as Paris, Vienna and Breslau. The famous Hospital St. Louis in Paris contains hundreds of beds for patients suffering from skin and venereal diseases. Its unique Baretta collection of life-like wax models of cutaneous disorders forms a treasury which perennially attracts a pilgrimage of seekers of instruction. The resources of the general hospital in Vienna, with its almost 300 beds for the same purpose, are too well known to need reiteration here. But even in that comparatively small Silesian town, with its 200,000 inhabitants, in Breslau, you may see a special institute, a large building, exclusively for the advancement of dermatology. It contains several wards, polyclinical rooms, bacteriological and histological laboratories, rooms for photographic, particularly for stereoscopic reproductions, lecture halls, complete bathing arrangements, drug rooms, in short, it is an ideal dermatological household, under the leadership of that enthusiastic master, Neisser, and his assistants. Where is the millionaire who will ever endow anything like it here?

Let us keep our eyes open to our short-comings and possible defects, let us continuously strive for further improvements in our methods of instruction and our technical facilities. Then, indeed, may the day not be far off when our young graduates will cease to wander across the water in search of higher medical education; when, as Osler predicted recently, the current of seekers of knowledge and skill may be reversed toward our own shores. Then the United States of America will be the leaders not only in all spheres of industrial and commercial activities, but also in the higher domain of the science and art of medicine.

ETIOLOGY OF DYSENTERY.*

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Our imperfect knowledge of the nature of dysentery is not due to lack of opportunity for, or of energy in, its study. The disease, in the past quarter of a century, has not escaped the attention of bacteriologists, although it must be confessed that the results of somewhat extensive studies along these lines have been far less conclusive than might have been predicted. The attempt to establish a common etiological factor for all cases of dysentery has thus far failed. This failure has tended to emphasize the existence of several pathological states for which the term dysentery is employed merely as the collective designation. That these conclusions regarding the disease may, after all, not be in keeping with the facts is at least open to suspicion. When we recall the protean nature of other infectious diseases, there can be no *a priori* objection to the hypothesis that the causative agent of dysentery need not necessarily vary for each of the many types of the disease that have, from time to time, been distinguished.

That the lines of demarcation between the several clinical and pathological types should be inaccurate is not a matter of wonder. Both the beginning and end of any given instance may vary very widely and the symptoms and lesions of cases arising sporadically in temperate climates may agree with those of dysentery occurring endemically in the tropics or epidemically in both localities. The terms "catarrhal," "tropical," "epidemic," and "diphtheritic" are far from signifying sharp-cut entities.

As must always occur when classification of a disease proceeds on clinical and pathological rather than etiological lines, the literature of dysentery is burdened with an interminable mass of appellations indicating the nature of the disorder or the author's conception of its pathological anatomy. Dysenteries, however, are now divided by the chief writers into several groups, depending on the clinical history or the mode of prevalence; thus Osler writes of the acute catarrhal, tropical or amebic, the diphtheritic, and the chronic dysentery. Davidson considers the subject under two headings, 1, according to prevalence—epidemic, endemic, the dysentery of war and famine; 2, on clinical grounds—acute, fibrinous or pseudo-diphtheritic, and chronic dysentery. Kartulis described endemic, epidemic, and sporadic varieties; Manson speaks of a catarrhal and ulcerating dysentery, while Delafield distinguishes in the environs of New York at least five distinct types of the disease, only one of which appears to be due to a specific agent, the ameba coli.

Bacteria have been urged by many investigators as the cause of dysentery. The earlier studies of Klebs, Prior, and Ziegler have now only a minor historical interest, although Ziegler still holds that the relation of certain bacilli to the lesions speaks for their pathogenic action. The early studies of Hlava on the epidemic disease yielded quite inconclusive results. Chantemesse and Widal were somewhat more fortunate in that from five cases of tropical dysentery they obtained a bacillus which, when injected into the stomach or rectum of guinea-pigs, gave rise to diphtheritis, an observation, however, which Grigoriew, who believed that he had isolated the same micro-organism from ten cases of dysentery, failed to confirm. Maggiori obtained from eleven cases of the epidemic disease B. coli communis. This investigator considered it highly probable that the disease was caused by this organism, whose virulence was intensified, a conception also shared by Laveran, Arnaud, Celli, and Fiocca and Escherich, who isolated the same organism from dysenteric cases.

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The studies on this bacillus by Celli and Fiocca are the most important which we possess. Their cases included examples of the sporadic, epidemic, and tropical disease occurring in Italy and Egypt. They paid special attention to the occurrence and action of the ameba coli, so that they are doubly useful. They exclude this organism as a cause of any form of the disease and consider that a variety of the colon bacillus particularly pathogenic, which they designate B. coli dysenteriæ, is responsible for the lesions. A toxin separated from growths of the organism was found to act on the intestines of animals in a manner similar to the bacilli. Results similar to those of Celli were obtained by Del Pino and Alessandri. The colon bacillus is also believed by Escherich to play an important part in the production of colitis contagiosa in children—a disease which in its morbid anatomy agrees with catarrhal dysentery.

The bacilli thus far enumerated, except those of Chantemesse and Widal, show no specific properties. They all represent a well-known bacterial species, constantly present normally in the situations from which they were obtained in disease, and whose only unusual properties were increased virulence when tested on animals, and a capacity to set up enteritis when injected into the intestines of dogs and cats.

Investigation of an epidemic of dysentery which prevailed in Japan yielded different and apparently more convincing results. Ogata isolated fine bacilli, which liquefy gelatin, stain by Gram's method, and set up in guinea-pigs and cats intestinal ulcerations. A similar organism was later obtained in Padua by Vivaldi, since which time it appears not to have been found again. This list covers the bacillary species isolated in cases of dysentery, with the exception of an organism obtained by Shiga, who also studied the disease prevailing in Japan. This investigator's studies, which have a very direct value on my own, are deferred for the present.

On the other hand, a causative rôle in the production of dysentery has also been ascribed to the pyogenic cocci. Besides being found in association with bacilli by several of the investigators already mentioned, they have been regarded as the chief pathogenic agents by Zancarol, whose studies were carried out in Alexandria, and very recently by Ascher, who investigated cases arising in Eastern and Western Prussia. Similar observations were made by Silvestri, of Turin, and by Bertrand and Baucher in France. These cocci, especially the streptococci, were capable in certain instances of setting up, in cats, dysentery and liver abscess. An especial variety of endemic dysentery occurring in Cochin China, yielded Calmette the B. pyocyaneus. The same micro-organism was isolated from a small epidemic of the disease occurring in New York state by Lartigau; in another epidemic in children prevailing in Canada by Adami, and in certain sporadic cases, by Barker in Baltimore.

Protozoa have also been brought forward as the cause of dysentery. These organisms differ from the bacteria in not existing in easily demonstrable forms or numbers in the dejecta in health and the number of species occurring under all conditions is small. Among the protozoa the amebæ have achieved the distinction of being connected in a causal relation with endemic dysentery. Since the studies of Kartulis, Councilman and Lafleur, and Kruse and Pasquale, so firmly has the idea of this connection taken hold of the popular medical mind that the designation "amebic" as synonymous with "endemic" or "tropical" dysentery has been widely adopted; and yet the evidence on which this belief is placed can not be regarded as convincing. Until we shall have gained other means of differentiating amebæ than we now possess, and moreover until we are able to control their development with at least as great perfection as in the case of bacteria, the question of the precise part played by them in dysentery can not be satisfactorily determined.

The last ten years have seen a modification of the views regarding amebæ as causes of pathological conditions in human beings. That these organisms exist in diseases other than dysentery was conclusively proved by the early observations—Cunningham, Lewis—on choleraic discharges. Grassi found them in diseases so varied as typhoid fever, cholera, pellagra and colitis secondary to tumors. He also found them in the dejecta of healthy individuals, a fact further established by Calandrucci, Massiutin, Kruse and Pasquale, Gasser and Schuberg. It can, therefore, no longer be held that amebæ are necessarily pathogenic when found sojourning in the intestine of man.

That these organisms, when combined with bacteria, may cause intestinal lesions and even ulceration, is now established. The experiments of Kartulis and Kruse and Pasquale with the contents of hepatic abscesses supposed to be free from bacteria are all but convincing in so far as they are supposed to prove the capacity of amebæ alone to set up such changes. Councilman and Lefleur believed that the amebæ alone produced the intestinal lesions. Kartulis, on the other hand, sees in the occasional diphtheritis evidence of the action of bacteria, while Kruse and Pasquale have followed the latter in their penetration into the coats of the gut where they lie side by side with the amebæ, or even precede them in the invasion.

We may, I think, sum up the present knowledge of the cause of dysentery in the following way:

1. No bacterial species yet described as the cause of dysentery has an especial claim to be regarded as the chief micro-organism concerned with the disease.

2. It is unlikely that any bacterial species that is constantly and normally present in the intestine or in the environs of man, except where the disease prevails in an endemic form, can be regarded as a probable cause of epidemic dysentery.

3. The relations of sporadic to epidemic dysentery are so remote that it is improbable that the two diseases are produced by the same organic cause.

4. The pathogenic action of the ameba coli in many cases of tropical and in certain examples of sporadic dysentery has not been disproved by the discovery of amebæ in the normal intestine, and in diseases other than dysentery. While amebæ are commonly present and are concerned in the production of the lesions of

subacute and chronic dysentery, they have not thus far been shown to be equally connected with the acute dysenteries, even in the tropics. In the former varieties, bacterial association probably has much influence on the pathogenic powers of the amebæ.

The Dysentery of Japan and the Philippine Islands.—Every year, especially in the summer and autumn, dysentery prevails in Japan. The epidemic studied by Ogata occurred in the province of Oita. Lesions in the intestine are described in one instance, death having occurred on the eleventh day of the disease. The lower segment of the small intestine was hyperemic. The large intestine was greatly swollen so that the lumen was almost obliterated. The mucous membrane was hyperemic, and presented a deep bluish-red color, while the mucous membrane of the transverse and descending colon showed small ulcers, which were so numerous as to give to the membrane a sieve-like appearance. The peculiar bacilli described by him were obtained from these cases.

The most recent bacteriological study of Japanese dysentery has been made by Shiga. Out of the considerable number of cases of the disease occurring in Tokyo in 1897, thirty-six were subjected to examination. Shiga recognized that in order to prove that an organism which is suspected of standing in etiological relation to a disease is really the causative agent, four points have to be demonstrated, 1, that organism must occur constantly; 2, it must be a species not present normally in the diseased parts; 3, it must be pathogenic, and produce in experimental animals lesions similar to those from which it was obtained; and 4, it should, in virtue of its pathogenic activity in man, show the Widal agglutination reaction with the blood-sera of those who have suffered from the disease. From the series of cases examined, there was obtained from the dejecta and intestinal contents and walls, and from the mesenteric glands a bacillus which fulfilled all these requirements, and which was regarded as the cause of at least Japanese dysentery.

Before describing this organism, I wish to direct your attention to the dysentery prevailing in the Philippine Islands, especially in and around Manila. The report of the surgeon-general of the army for 1899 contains a tabulation of diseases observed among the American troops during the first four months of the American occupation of Manila. In it the dysenteries are included with the diarrheal diseases. The total number of cases reported was 445, death-rate being 0.48 per cent. The comment made is that the malarial diseases exceed their prevalence in the United States in the proportion of 370 to 96, and the diarrheal diseases in the proportion of 445 to 116, or about four to one in both instances. This compilation fails to give an adequate idea of the extent, severity and mortality of dysentery in Manila. Although the figures were not obtainable, I was convinced from nearly three months' residence in Manila that the enteric diseases, of which dysentery was the most frequent and important, were the chief causes of disability and mortality among the land forces of the American army.

The disease occurs in two main forms: acute and chronic. The stools and intestinal contents were scrutinized for amebæ. These organisms were absent or very difficult to find in the acute cases. In the chronic forms of the disease, in which ulcers were present, they were variable as to actual occurrence and number. Large hepatic abscesses, usually single, were encountered in a number of these cases.

The morbid anatomy of the chronic disease agrees in part only with that of the so-called amebic dysentery. The pathological changes in the acute disease differ widely from those of the chronic cases. I shall give an illustrative example: American soldier, dead on the sixth day of the disease. The entire large intestine from the cecum to the rectum is dilated and the walls of the gut are thickened. The mucous membrane is swollen, its consistence much increased, and the normal folds are thrown into elevated coarse corrugations. The general color of the mucous membrane is deep red, but there are present many brighter spots, evidently due to hemorrhage. A false membrane, consisting of scattered white elevations, occurs on the surface. Distinct ulceration can not be made out with the naked eye.

Bacteriology of Philippine Dysentery.—In the study of the bacterial flora of the disease, acute and chronic cases were utilized. Plate cultures in agar-agar were employed. The material for the cultures was obtained from the dejecta and from the intestinal contents after death. From the separated colonies slant cultures were made. Those consisting of the pyogenic cocci, which were never absent, were not studied further. Portions taken from the several bacillary colonies were tested on various culture-media with the result that two distinct types of organisms could be distinguished, especially in the acute cases. Their properties are as follows:

TYPE 1. Bacillus of average size; variable in length, usually occurs singly, sometimes in pairs, but only very rarely in filaments. The ends are slightly rounded. Moderate motility. Gram's stain is negative. Morphology: colon—typhoid type.

Growth took place on all culture-media at the room temperature, but better in the thermostat. Gelatin was not liquefied.

The colony forms resemble those of B. typhosus; after many successive transplantations on artificial culture-media, the colonies and slant growths become more opaque and abundant.

Potato: Growth takes place along the line of inoculation and spreads beyond. After some days it is a little elevated and of a pale-brown tint. On unfavorable potatoes the growth is slight, moist and membraneous, resembling that of B. typhosus when typical, excepting for the greater amount of moisture.

Sugar-agar is not fermented gaseously; in glucose media a moderate acid production takes place.

Litmus-milk: At first a very faint lilac color appears. It is discernible after 24 hours, but more marked at the end of 48 or 72 hours. After a lapse of 6 to 8 days alkali begins to be produced, which increases in amount until the litmus is rendered deep-blue in color. No coagulation of the milk ensues.

Indol: This body is variable in its formation. Even in sugar-free bouillon if may fail to appear, or be produced in small quantities only.

Suitable cultures of this organism, when tested for the agglutination reaction with the blood-serum of persons suffering from dysentery, whether the host or another individual, give in many cases a positive reaction.

TYPE 2. Present in all instances. In the acute cases it may not predominate, being less numerous than the members of Type 1. In all others it is the predominating bacterium. Its properties are variable, but agree with those of the group of B. coli communis. The main variations relate to the extent and rapidity of growth on the several culture-media as exhibited by the color, thickness, etc., of the colonies. The sugars are broken up with the formation of gas. Litmus-milk is reddened promptly, but coagulation sets in at variable intervals—sometimes after twenty-four hours, at other times not for several days or weeks. Indol is produced, but can not be demonstrated in all cases within twenty-four hours. In morphology the bacillus resembles B. coli communis. Some specimens are motile at the end of twenty-four hours; in others, motility could not be demonstrated.

The results of the agglutination tests varied according as the blood of the host or another individual was employed. With the host there was frequently a reaction in low dilutions; with another person the reaction was rarely and very inconstantly obtained.

Before proceeding to the assumption that this organism was concerned with the production of the intestinal lesions of dysentery occurring in Manila, its absence from the stools of healthy persons and those suffering from other diseases must be established. Strong presumptive evidence of its being an unusual inhabitant of the intestine of man may be gathered from the facts already known concerning the ordinary intestinal flora. But as such observations would not suffice for a new region and under new conditions, the organism was searched for in other persons who had been in close association with those suffering from dysentery and also in inhabitants of other parts of the Island of Luzon. The organism was not demonstrated in healthy dejecta or in the evacuations of persons (native Filipinos) suffering from beri-beri. A further argument in favor of its restricted distribution is furnished by its absence from cases of chronic dysentery or its marked reduction in numbers.

Pathogenicity.—The pathogenicity of the bacillus type was studied, soon after its isolation, on mice and monkeys in Manila, and on various animals in this country with cultures brought back from the Philippines.

Mice are susceptible to subcutaneous injections, but react more readily to intraperitoneal inoculations. According to the dose, death takes place in from 12 to 48 hours—more rarely after several days. The site of the puncture shows edema, and when the inoculation is made into the peritoneum a slight turbid exudate is present. Bacilli are present in very large numbers in both situations and there is a general invasion.

Guinea-pigs react much in the same way as mice. The dose required is slightly larger, but successive inoculations quickly increase the pathogenicity. At first the organisms remain confined to the site of injection, but when the virulence has become intensified the body is invaded. Intraperitoneal injections cause a sero-purulent peritonitis, many bacilli being contained within polymorphonuclear cells. The intestines are hyperemic; the contents are watery and the bacilli can be cultivated from the fluid portions.

Subcutaneous injection into rabbits gives rise to a localized swelling, which is sometimes followed by death. At other times an abscess forms and perforates the skin, after which recovery may take place.

Cats and dogs are also susceptible to feeding with cultures, the first after the administration of croton-oil, the second directly. In both enteritis is set up; an increased secretion of mucus takes place, hemorrhages may occur, and bacilli are cultivatable from the dejections and intestinal contents. Ulceration does not take place.

Tests made with dead cultures on guinea-pigs show them to be highly toxic.

If the bacillus described is of significance in the etiology of dysentery, it must occur with regularity in the disease. Whether or not it will be found to have the distribution that is necessary in order to establish this relationship can only be determined when the study is carried on in widely different places and in all forms of the disease. That the bacillus is identical with the organisms obtained by Shiga in the epidemic of dysentery which prevails in Japan, there can be no reasonable doubt.

I have recently been enabled to study bacteriologically and pathologically a case of chronic Puerto Rican dysentery contracted during the Spanish war. The autopsy showed the colon to be greatly thickened, especially along the sigmoid flexure. The mucous membrane presented a roughened surface without showing pronounced ulceration. The submucosa was thickened also, and there was considerable contraction. A very small amount of pseudo-membrane was present over the lower part of the sigmoid flexure. Bacteriological examination yielded two types of bacilli, the prevailing one agreeing with the type of B. coli communis, the other with bacillus type 1, already described.

The bacteriological studies of Egyptian dysentery published by Kruse and Pasquale contain numerous references to typhoid-life bacteria. Critical examination shows the majority to belong to the group B. coli communis. Still other examples of bacillus similar to, and possibly identical with, the B. dysenteriæ have been found in dysentery, although they are not suspected of standing in any etiological relation to it. Pansini studied four cases of abscess of the liver, three of which had followed dysentery. The bacilli which were isolated resembled B. typhosus; indeed, Pansini could not distinguish between the two series. Babes also, although only in a single instance, isolated such an organism from a case of dysentery.

The question naturally arises: In what way does the bacillus Type 1 differ from B. typhosus? When the properties of Shiga's bacillus and that of the Eberth-Gaffkey organism are compared, the criteria of difference are not numerous. The main features, however, are as follows: The former shows less marked motility when first isolated and a tendency rapidly to lose motility in artificial cultivations; it displays a more uniform generation of indol; after a brief preliminary acid-production in milk, there follows a gradually increasing alkalinization; it is inactive to blood-serum from typhoid cases, but reacts with serum from dysenteric cases to which the B. typhosus does not respond.

The Agglutination Test.—The tests in the case of the bacillus isolated in Manila were made at the time with blood obtained from acute and chronic cases of dysentery, and after the return to this country, with the blood-serum from the case of the chronic Puerto Rican disease as well as with blood obtained through the courtesy of Assistant-Surgeon Craig, stationed at the Presidio at San Francisco, the last having been obtained from convalescents and other soldiers suffering from chronic dysentery who had returned from the Philippines. The results were positive in the cases of the acute disease in which infection with the bacilli was established. It was also positive with the blood of the Puerto Rican case of chronic dysentery, but was inconstant with blood from other chronic cases. Dr. Osler has told me of his experience. In several cases of amebic dysentery that have come to his attention in the Johns Hopkins Hospital, the blood-serum has not caused agglutination of the dysenteric bacilli obtained in Manila. In a case of the

Puerto Rican disease a positive reaction was obtained.

These results are, I think, suggestive of the nature of tropical dysentery. The typical acute and infectious variety is probably bacillary in origin, and the indications are that the particular bacillus which has been described is the cause of this variety of the disease. On the other hand, the chronic form of the disease would appear to be dependent on at least two sets of causes: the one representing a continuation of the acute disease and probably due to the same micro-organism, the other being due to a different organism and apparently the ameba coli. The first variety of the chronic disease only may be expected to give the serum reaction with the B. dysenteriæ.

Protective Inoculation and Serum Therapy.—It is not unreasonable to hope that with the discovery of the specific cause of dysentery, particularly if it be a bacterium capable of being artificially cultivated, means will be found by which protective inoculation may be carried out with effect and safety. The fundamental conditions underlying such immunizations are now fairly established, and two general methods of accomplishing such results are open to investigation. In the first place, an active immunity may be achieved through the use of cultures of a determined grade of activity; in the second, the serum of animals may be employed either as a therapeutic agent or to provide a passive immunity.

It has been found possible, through the use of cultures destroyed by heat or the addition of chemicals, to protect small animals from the effects of subsequent inoculations of the virulent bacilli. Larger animals, such as the goat, when treated first with the dead and afterward with the living cultures, develop a gradually increasing resistance to the inoculations; their blood-serum assumes highly agglutinating qualities for the bacillus, and coincidentally acquires protective and healing properties. My own experiments relating to this topic have been carried out on small animals only, as no patient with acute dysentery has been seen by me since the serum from the goats has been available. Shiga has, however, been able to test the serum on human cases.

According to Dr. Eldridge, up to Nov. 1, 1899, Shiga treated with serum cases as follows: 1898, in Laboratory Hospital, 65 cases, death-rate, 9 per cent.; 1899, in Laboratory Hospital, 91 cases, death-rate, 8 per cent.; 1899, in Hirowo Hospital, 110 cases, death-rate, 12 per cent. During the same period of 1899 there were under ordinary treatment at Tokyo: at Honjo Hospital, 166 cases, death-rate, 37.9 per cent.; at Hirowo Hospital, 53 cases, death-rate, 37.7 per cent.; at Komogome Hospital, 398 cases, death-rate 34.6 per cent; in private houses, 1119 cases, death-rate, 28.5 per cent.

I should, however, expect greater benefit from a species of vaccination, especially in those exposed to the endemic or the endemo-epidemic dysentery of the tropics. The encouraging results of the injections of the dead bacilli of Asiatic cholera makes the use of a similar procedure in persons exposed to dysentery advisable. The practical details of such inoculations will, of course, be established only after trials, preferably on human beings who are anxious to submit to this method of treatment.

Very little remains for me to say at the present time. It is only natural to ask whether the results given in the last half of the paper justify a belief in a specific organism of dysentery. My own sense is against that belief, although it must be conceded that the varieties of the disease are fewer than the clinical and pathologico-anatomical conceptions of this time would lead one to suppose. I am disposed at this time to view tropical dysentery as consisting of a bacillary and amebic form separable in their early and later stages by their clinical histories, their etiology and pathological anatomy. Whether epidemic dysentery may have a simpler etiology future studies will be necessary to decide. The view expressed by Shiga, to the effect that the bacillus isolated by him is the cause of the epidemic disease occurring in Japan, may be followed by the establishment of the same organism as the cause of other epidemics. My own observations prove the wide distribution and pathologic activities of the organism as well as its relations with a certain class of dysenteries.

NOTES ON TROPICAL DYSENTERY.*

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Professor Flexner has made such exhaustive remarks on the subject that it remains for me only to present the clinical history of a case. I trust I may be permitted to state also the impressions I received from consideration of the combined clinical and pathological features of the case. The impressions were new to me, partly because of ignorance and partly because it was the first opportunity I had of observing the clinical course and the pathological findings. I had seen tropical dysentery, and associated it with the group of symptoms we are accustomed to see in our climate; or with the more severe types seen during our civil war, with which we were made familiar by the writings of Woodward and others; or with the amebic form, for our more precise knowledge of which we are indebted as much to our colleagues, Councilman, Lafleur, Osler and Flexner, as to any other writers.

Toxic Symptoms.—In the case to be reported we find inflammation of the intestinal tract with its train of symptoms, we find an afebrile course, extreme emaciation and a profound toxic state terminating in the familiar typhoid condition. With these symptoms, the strikingly sallow, pallid hue of the skin, which I had seen in other cases, and which was attached by me to the ailment, was observed.

Serum Diagnosis.—In addition to the interesting toxic phenomena, the serum agglutination, as performed by Dr. Flexner with cultures of the bacillus of Shiga—the bacillus dysenteriæ—proving that the tropical dysentery of Porto Rico was similar to that of the Philippines added thrill to the interest of the case. Moreover, here again was applied a method of diagnosis, which with increasing experience seems to grow in value.

Scorbutic Symptoms.—During the period of observation, symptoms of scurvy set in so that, had we not had the positive results of the serum agglutination we might have thought the case was one of aggravated scurvy. So similar were the symptoms, we felt justified in resorting to antiscorbutic measures. It is needless to say they availed nothing. Nevertheless, the sore and bleeding gums, the subcutaneous hemorrhages, the complexion, the boils and the bloody flux tallied with many of the descriptions of old-time scorbutus.

The Anatomical Findings.—It could not be otherwise than noticed, that in spite of the grave and extensive symptoms, but relatively few anatomical changes were found. The small amount of ulceration of the intestinal tract contrasted strongly with the large ulcers and sloughs in amebic dysentery. Then, too, there were none of the embolic phenomena seen in the latter infection. The extent of the anatomical lesions were, on the whole, disappointing. Briefly told, the story of the case is as follows:

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G. R., aged 32, white; soldier; native of Kansas; admitted Oct. 12, 1899.

Family history: Father and one brother living and well; mother dead, cause unknown; one brother died of measles.

Previous Personal History: Has never been ill excepting with whooping-cough. At the age of 21 he joined the army, and has been a soldier until two months ago. During the Spanish-American war, he was camped near Mobile and Tampa, but did not suffer from any disease while there. He was in Porto Rico 11 months, and while there contracted conditions from which he is now suffering. He has had gonorrhea several times, but is not troubled with it now.

History of Present Illness: Disease began, after being in Porto Rico about three weeks. Many others began to suffer at the same time. Water and food while sufficient in amount, were bad in quality. Diarrhea was his chief symptom, and he had as many as 10 and 12 stools daily, and sometimes half his night would be spent on the water-closet. Associated with this was much rectal tenesmus. His stools contained much mucus, were watery to a degree, and some blood was found in them. At one time he passed something looking like a piece of bowel covered with mucus. During, and before having a stool he often had crampy pain; relief would come after having had a number of stools. He did not pass much urine after these attacks began. There was a constant bearing down pain over base of bladder, which is not relieved by anything. Nausea and vomiting often accompanied diarrhea, and vomit was of about the same character as stool—watery mucous and blood. Many symptoms of indigestion were present during these attacks; eructations, flatus and distention of abdomen, bad taste in mouth, coated tongue, and lack of appetite. Sleeplessness, burning pain along vertebral column were present continuously. He claims to have weighed over 200 lbs., before going to Porto Rico; weight on admission 120¼ pounds. Within three months he has noticed pains in his shoulders, and has had numerous boils on different parts of body, within the year.

Condition on Admission: Patient complains of four different things: a diarrhea, pain over bladder, pains in both shoulders, and boils. He is a tall man—5 feet 11¾ inches—with a large frame, this frame being covered sparely; weight 120¼. Skin of face is sallow, old parchment-like in appearance, but mucous membranes are pale. Pupils equal; react to light and accommodation. Arteries not tortuous. Epidermal scaling over thorax. Chest very prominent; badly emaciated; expansion good and equal; tactile fremitus normal. Percussion resonance normal. Respiratory resonance and fremitus normal. No râles anteriorly or posteriorly. Heart normal, except slight accentuation of second sound. Abdominal examination negative. Numerous scars in different parts of body due to boils. Over prominence of buttocks on right side, and tuber ischii on left side, two circumscribed areas of inflammation; furuncles at their height.

October 13: Urine, normal; sp. gr. 1016, acid; turbid; amber; no albumin; no sugar. Stools: no ameba; milk globules; no blood; mucus in quantities; contains curds; undigested masses of different colors; offensive odor. Blood normal.

Treatment: Patient is put on milk diet, f℥vi every two hours; urine, and bowel movements are noted in number and character.

October 14: Patient has had 9 movements within 48 hours; character as described. A large furuncle over right buttock was opened and curetted; a teaspoonful of purulent material escaped. T. P. and R. are normal, and patient feels much more comfortable.

October 18: While patient says that he feels much improved, there is no sign of abatement in his dysenteric condition, number of stools averaging 3 in 24 hours; character of stools has changed but little, if any.

October 19.—A new furuncle is showing itself at shoulder.

October 23: Stools have diminished to 2 in 24 hours, and patient feels quite well. He had some nausea with vomiting yesterday, but has recovered to-day. Color of stool is brown, characteristics otherwise unchanged. He has been put on meat diet. Enemata of silver nitrate 1 to 20,000 are ordered.

October 27: Treatment as above; condition unchanged.

October 31: Patient passed a partially formed stool; enemata are 1 to 16,000 strong.

November 14: Patient has but one or two bowel movements daily; occasionally they are partially formed, but there is comparatively little improvement as regarding consistency. His appetite is poor, and he tires of all food very readily. He is losing in weight right along, and seems to be getting weaker. His sleep is not especially sound. Heart seems normal; both sounds are strong. He has a number of purpuric spots, varying in size from a pinhead to a split pea, which he states he has had continuously during the past four months; first condition usually of larger spots; furuncle, which after evacuation of pus, resulted in the persistence of purpuric spot. Since his admission, he has had two large boils on right shoulder; these were surrounded by various sized areas of hemorrhagic effusion. Cultures from pus revealed staphylococcus albus. About three days ago, he began to complain of soreness of gums. They are quite reddish and edematous, but have never bled.

November 26: Patient seems not to assimilate food too well; his weight diminishes at each weighing. Last Monday (Nov. 21) he weighed but 100 pounds. The number of stools is also again increasing. Fecal material, examined two days ago for tubercle bacilli, but did not reveal any.

December: Patient is rapidly failing in every respect. There is little left of him besides skin and bones; condition of bowel movements has not changed; they are liquid and semi-liquid, brownish-green in color, containing undigested material, curds, mucus, and the last few days also some blood; odor is sour; no fecal odor. Appetite has been failing for some time. Chest examination is entirely negative. He occasionally has some pain in abdomen. Temperature has been as low as 95.6, and is continually subnormal; body cold and clammy. Stools have been examined microscopically, and contain mucus strands, fat globules, some blood and numerous bacteria. Urine is normal in every respect.

December 15, 1899: Emaciation continues; skin has for some time been dry and brittle, numerous scales all over; hair-pits all over body are covered by brownish scales; tongue is dry and glassy, side covered by white coating; teeth have sordes; voice is thick and low; complains of dryness of entire laryngopharyngeal tract. Examination of lungs shows no change; heart-sounds weak, but nothing abnormal. Abdomen boat-shaped; has had considerable pain in epigastrium for several days past; better to-day. No new hemorrhages over limbs. Joint surfaces look red; skin ready to break. Appetite good, craves, and eats ravenously of oysters, milk, etc. Temperature varies between 95 and 97. Pulse is fairly strong at about 90. Respirations vary between 12 and 15. During sleep sink as low as six. Patient feels much warmer than a week ago. Bowels move almost continually now; to-day a brownish liquid, with fecal odor.

AUTOPSY, DEC. 18, 1899, 10 A.M. UNIVERSITY HOSPITAL.
PERFORMED BY DRS. SAILER AND FLEXNER.

External Appearance: Body of man, extremely emaciated. Marked post-mortem discoloration on abdomen. Small sore covered by scab on right shoulder; another on the left lumbar region, brown; injected spot on right hip; numerous scars and ulcers on right leg: thickened fissuration over right knee. No rigor mortis.

Peritoneal Cavity: Small amount of reddish fluid. The wall of the colon contains areas of dark-black pigmentation. There is a slight injection of the peritoneal surface, particularly about the hepatic flexure. The glands of the mesocolon are all enlarged to the size of peas, and of moderate consistency. The mesenteric glands are also enlarged, pale-gray, apparently covered by dilated lymph-vessels. The lymphatic vessels in the peritoneum are all greatly distended. The caput coli and small intestines are moderately distended. The lower border of the stomach is below the ribs; position nearly horizontal. The lower border of the liver is below the costal border. The left pleural cavity is clear. The right pleural cavity contains a few cubic centimeters of clear, straw-colored fluid. The right side of the pericardial cavity contains a large diverticulum, which extends from the peritoneum into the right pleural cavity; it communicates with the pericardial cavity by an opening .5 cm. in diameter.

Heart: Very small. Epicardium slightly thick and opaque. It forms ridges accompanying the blood-vessels. The latter are tortuous and the veins are slightly distended. There is a small patch of dense, white thickening on the anterior surface of the right ventricle. The right auricle is contracted. Foramen ovale is not patulous. No valve over the coronary vein. The tricuspid orifice admits two fingers; endocardium is clear and transparent. The right ventricle shows slight thinning of the walls, the muscle being 4 mm. in thickness. The muscle is brown and soft. The pulmonary valves are normal. The pulmonary artery is small, 6 cm. in circumference. The left auricle is small; endocardium is pale and opaque. The mitral valve admits one and a half fingers; mitral leaflets normal. The wall of the left ventricle is thin, measures 9 mm.; brown in color, contains trabeculæ of connective tissue. There is a slight atheromatous change in the anterior leaflets of the mitral valve. There is slight sclerosis at the base of the aortic valve and thickening of the corpora arantii. Willow-tree marking at the base of the aorta. Coronary artery is normal. Weight of heart, 160 grams.

Left Lung: Moderate anthracosis of apex and edges of lung. Lungs are pale and show considerable bullous emphysema, particularly at the apical edges. The bronchial glands are anthracotic and slightly enlarged. Surface of section is pale pink.

Right Lung: Apex anthracotic; incomplete separation of the two upper lobes.

Left Adrenal: Normal. Fatty degeneration in cortex. Small accessory below lower end.

Right Kidney: Normal vessels. Ureter not distended. Substance of the kidney is firm. Similar to the left. Weight, 117 grams.

Right Lung: The posterior surface of the upper lobe shows hypostatic pneumonia. On the anterior surface of the lower lobe there is an area of consolidation, sharply limited, of irregular shape, reddish color. The pulmonary tissue resembles that of the left lung.

Spleen: Small. Capsule thickened, wrinkled. Consistence firm. Trabeculæ markedly hyperplastic.

Renal Vessels: Normal. Ureter not dilated. Left kidney very firm, capsule strips readily, although slightly adherent. The cortex is finely granular. Stellate veins injected. On section the cortex is slightly thick. The glomeruli are greatly distended. The pyramids are normal. Weight, 117 grams.

Mesentery: Deeply discolored, the result of post-mortem decomposition apparently.

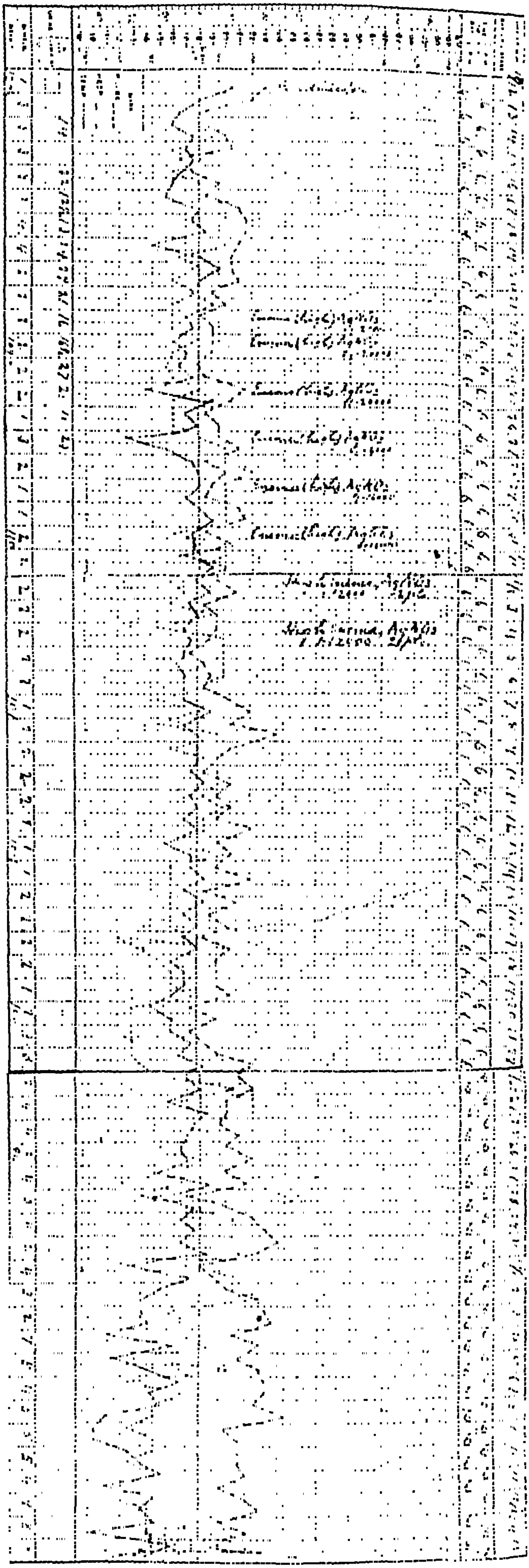
Mucous membrane of the stomach is smooth, soft and covered with mucus containing bloody pigment. Cardiac orifice dilated. The wall of the esophagus is thickened. The mucous membrane contains hemorrhagic pigment. The mucous membrane of the duodenum shows fine brownish pigment. The bile-duct is freely patulous.

Pancreas: Soft. Tissues apparently normal.

The intima of the aorta is pale, smooth. The aorta is elastic.

The lymphatic follicles in the duodenum are considerably distended. Throughout the whole intestinal tract there is fine granulation, more marked in some places than in others. No ulceration; slight hypostatic congestion of certain areas.

Liver: Firm; capsule transparent. Weight 1160 grams. Section normal.



Large Intestine: The peritoneal surface, particularly along the sigmoid flexure, shows dark points and lines of discoloration. There are no peritoneal adhesions. On opening the intestine the rectum and sigmoid are contracted, whereas the transverse colon is distinctly dilated. The intestinal mucosa is thickened throughout, and there are recent hemorrhages into its substance. Throughout the entire length there are present, in addition, numerous, dark, slaty areas of pigmentation, indicative of old hemorrhages. No definite pronounced ulceration is present. The general mucosa presents a granular appearance, and there are superficial areas of denudation of the epithelium. On section the submucosa is firm, but not greatly thickened, excepting in the lower part of the intestine, where there is much contraction. In the region of the transverse colon the mucous membrane is also edematous; that of the cecum is less involved and the small intestine has entirely escaped; only in the lower portion of the sigmoid flexure is there an irregular and small development of pseudo-membrane.

Anatomical Diagnosis: Dysentery. Ulcerative and pseudomembranous colitis. Infarction of lung (?). *Anemia universalis.*

BACTERIOLOGICAL PROTOCOL.

Cultures from liver, spleen, bile, infarction of lung, mesenteric gland, sterile after twenty-four hours in the thermostat.

Petri-plates were made from the intestinal contents taken from the hepatic and sigmoid flexures by burning the surface of the intestine before their removal. Plates were also made from the contents of the large intestine after removal at the autopsy and opening. All plates which were crowded with colonies were discarded; only discrete colonies were selected, from which various kinds were transferred to glucose-agar. From the many transplantations made, a small number only showed at the end of twenty-four hours *no gas formation.* These on comparison showed similar growths.

Coverslips gave short bacilli with rounded ends, showing moderate motility. Transplanted to the milk there is produced at the end of the first twenty-four hours a moderate acid production which, after a lapse of several days, is succeeded by an alkaline reaction of the milk. No coagulation. Gas is not made in any of the sugar media.

The organism corresponds with the bacillus dysenteriæ isolated from cases of dysentery occurring in Manila.

In addition to the case recorded I had the opportunity, through the kindness of Dr. Wilson, of Beaver, Pa., of seeing a case with him. It corresponded in clinical features with the one just recorded, save that scorbutic symptoms were absent. The disease was contracted in the Philippines, eleven months previously, but despite change of climate and the excellent care and treatment of Dr. Wilson, who early recognized the gravity of the case, the course of the disease was not abated. The gravity of the infection and the intensity of the intoxication can be realized when we consider that a lusty youth of two and twenty could be reduced from over 200 pounds to less than 90, and the flower of his country, be carried to his grave. Our new possessions bring to the medical profession new responsibilities in combating these dire diseases.

DISCUSSION ON PAPERS OF DRS. FLEXNER AND MUSSER.

Dr. William Osler, Baltimore—I have had some experience with this subject during the past six months. When the Doctor returned from Manila and told me about the bacilli I think the impression was at that time that the ameba would have to take a back seat in cases of dysentery. We had one instance admitted to the ward; he was a soldier from Porto Rico with dysentery which had lasted some months. No bacilli could be discovered. An interesting point was regarding the blood brought from Manila where the bacilli were obtained. Also, Dr. Flexner's second point, in amebic dysentery whether the bacilli could be outlined and whether the blood agglutinated would react with Shiga's bacillus. We have had six cases of the ordinary type of so-called amebic dysentery, but the blood did not react with Shiga's bacillus, which would indicate distinctly that the disease is separate and distinct from the dysentery as met with in the tropics. I should like to ask Dr. Flexner if this dysentery, which is growing so wide-spread, is not probably the same form which occurs in this country in poor-houses and jails, and which occasionally is seen in the hospitals and which has been locally epidemic. These features are quite different from the ordinary amebic dysentery.

Dr. Norman Bridge, Los Angeles—I should like to ask Dr. Flexner if typhoid fever may occur in conjunction with the form of dysentery which he has described, and if the blood-serum of the dysenteric patient will produce the Widal reaction of typhoid; that is, if it will agglutinate a typhoid culture? I ask these questions because of my observation of a patient in hospital, a year ago last fall, whose history was substantially like that of the patient referred to by Dr. Musser, who had all the appearances he describes—great prostration, purpuric spots, etc. The patient had been a soldier in Cuba, and I supposed the case to be one of tropical dysentery until the Widal reaction of typhoid fever was produced. The patient died a few days after purpuric spots appeared. In another case under observation in hospital within the past three or four months, the same symptoms were present, purpuric spots and all. The patient was a soldier who had returned from Manila, and he died with the dysentery symptoms. In this case no Widal reaction could be produced.

Dr. C. H. Hunter, Minneapolis—It may not come amiss to report two cases of dysentery that came under my observation. In one, a soldier belonging to the 13th Minnesota, the ameba could be demonstrated in the secretion. This patient died, and he had all the appearances that have been described. The other case was similar to, but not so severe as, the case described by Dr. Musser. The symptoms were severe if the young man permitted himself to continue exercising, or to labor and work, even intellectual work. If he remained in the hospital under careful diet and rest, the symptoms would not be severe and the dysenteric discharges would nearly cease. The discharges were examined by Dr. Westbrook and no amebic germs could be found. There were no agglutination phenomena like those reported. No adequate cause for infective symptoms could be demonstrated. I speak of these cases because it is quite possible that the information may be of some value. They will be reported elsewhere more fully.

Col. A. A. Woodhull, U. S. A.—I can add nothing to what Dr. Flexner has said. The statements that he has made in such a complimentary way are of service not only to the army but to medicine at large. My own duties in Manila were purely administrative, having no direct relation to clinical medicine. One can not work with both hands under those conditions. We suffer from a great deal of dysentery and other affections peculiar to the tropics. In a general way we found that it was desirable that the severe cases should be sent out of the country because of the fact that there was a general tendency to reaction. But that is a little apart from this discussion. There is nothing I can properly say that will add to the professional knowledge on this subject beyond what has been stated by Dr. Flexner, Dr. Osler, and others.

Dr. Franklin E. Murphy, Kansas City, Mo.—While listening to the report of Dr. Flexner I received the impression that he is not ascribing such an important part, in the production of so-called tropical dysentery, to the ameba coli as is taught by Dr. Osler and others who have studied the disease. I am extremely interested in this subject for the reason that in our locality, Kansas City, in the same latitude as Philadelphia, I have seen three cases of amebic dysentery. The first case I saw seven years ago. The case was reported in The Journal. The patient lived continuously in Kansas City for more than eight years prior to the attack and in these eight years had not been ten miles from home. I have since seen two other cases. One a patient who lived about fifty miles west from Kansas City, in Kansas, was suspected to have a pulmonary abscess consequent to pneumonia. A carefully taken history showed, however, chronic dysentery; later, symptoms of sepsis; then was found a large area of dulness at the base of the right lung, and after a time expectoration of much pus. Amebæ were repeatedly demonstrated in this pus. This patient had never been below this latitude.

The third case was that of a man who lived in Kansas City for twelve years, and who, in that time, had never been out of the city. Amebæ corresponding accurately with all descriptions given were repeatedly found in the bowel discharges. I rise, merely, to report to the Section the occurrence of amebic dysentery in an inland city so far north as the latitude of Kansas City.

Dr. V. C. Vaughan, Ann Arbor—I would like to ask Dr. Flexner if he has had an opportunity to make a bacteriological study of the so-called bloody flux that is sometimes quite prevalent in the Southern states. I have seen epidemics of this disease in Missouri and one or two small epidemics in Michigan. But the disease is very rare as far north as the last-mentioned state. A few years ago I made a bacteriological study of several cases of this disease and could find only the colon bacillus. However, this study was not very thoroughly carried out, and I have not since had an opportunity to pursue it further. In the camps in the Southern states during 1898 there were a great many cases of acute dysentery in which the patients passed considerable quantities of blood. These cases were easily amenable to treatment, and usually recovered after the administration of a few doses of castor-oil. In going over the sick reports furnished by regimental and other army surgeons I was struck by the fact that among the troops that remained in the United States in 1898 there were very few cases of chronic dysentery. On the other hand, during the Santiago campaign I saw a great many cases of dysentery, and these differed wholly from those which I had previously observed in this country. In Cuba the men with dysentery passed but little blood. They had many copious stools, and rapidly wasted away, becoming exhausted physically and apathetic mentally. I was also impressed with the fact that many of these patients recovered under the hypodermic administration of strychnia. I saw a great many men suffering with this disease who were apparently *in articulo mortis*, but who recovered if the heart was kept going by the use of strychnia. I think there were few cases of amebic dysentery among the soldiers who participated in the Santiago campaign.

Dr. J. H. Wilson, Beaver, Pa.—A member of the 10th Pennsylvania Volunteers, came under my care in August, 1899, in whom the disease was progressive. He died April 20, 1900. The clinical type was as Dr. Musser has stated. The attack presented the appearances as related in the paper from the beginning to the end of the disease. There was no epithelium on the tongue; there was no blood in the stools; there was no pain, nor any elevation of temperature—which is a point that has not been mentioned by the speakers. During the greater part of the time the temperature was subnormal. Emaciation was progressive and went on to the last extreme, and the patient died from exhaustion. There was never any pain or tenesmus and no evidences of sphacelation of the mucous membrance.

Dr. Simon Flexner—Replying to Dr. Osler's question: I think it highly probable that the acute forms of the disease which we encountered may agree with those arising under the conditions mentioned by him. It is desirable that from now on all acute outbreaks of the disease should be examined in reference to their bacteriology and also to their blood reactions. The latter test will often be possible when the bacteriological examination is for one reason or another impracticable. I shall be happy to supply cultures of the bacillus to anyone desiring to carry out the tests. In regard to Dr. Bridge's question I see no objection to a belief in the existence of a double typhoid and dysenteric injection. I have, however, not encountered such an instance. Under such circumstances the agglutination phenomena might at first be very puzzling. Then it is to be borne in mind that the typhoid reaction may persist after recovery from typhoid fever, after which a dysenteric infection may be acquired. Dr. Hunter's question regarding the duality or multiplicity of tropical dysentery is answered in my paper. Abscess of the liver would appear to be common only in the amebic disease. It was not encountered in the acute or chronic bacillary cases studied.

Dr. J. T. Musser.—There was an absence of fever; indeed, the temperature was subnormal throughout. I wish to lay stress on the method of diagnosis formulated by Dr. Flexner, the agglutination method. I also wish to emphasize the fact he has referred to, namely the absence of secondary infection in other parts of the body.

CASE OF MALIGNANT ENDOCARDITIS WITH RECOVERY.*

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Professor Principles and Practice of Medicine, Northwestern University, etc.
CHICAGO.

D. McD., a locomotive fireman, aged 25, entered Mercy Hospital Dec. 4, 1899. His family history was excellent, and habits were good. He had la grippe seven years ago. During the past year he had suffered from frequent headaches. These occurred almost daily during the preceding month. The pain was severe, and lasted several hours; at times it came twice daily. During the same time he suffered from gastric distress, coming on a few minutes after eating and lasting one or two hours. Gaseous and acid eructations were frequent. For four or five months vomiting occurred soon after several meals, especially if work was undertaken then. His bowels were constipated. Hurried movements caused slight breathlessness. He had noticed at irregular intervals palpitation of the heart. For a year he had not had the endurance which he formerly possessed. His general nutrition was good, his tongue slightly coated, and breath heavy. Physical examination of thoracic organs revealed nothing. The liver and spleen were normal in size. There was slight tenderness in the epigastrium, but no distention of the abdomen.

He did not vomit after he entered the hospital, but the headaches persisted. Symptoms of gastric indigestion lessened, and his bowels were kept fairly regular. His pulse and temperature were normal for a week. On the afternoon of December 11, the former was 84 and the latter 99.2 F. Two days later the afternoon temperature was a little over 100. On the 16th of the month it was 101.4, and on the 18th, 103. His headaches were severe up to this time. During the following week they lessened and finally disappeared. His temperature resembled that of typhoid. It was usually from 101.6 to 102 in the morning, and from 103 to 103.6 in the afternoon. His face was not flushed; abdomen not tympanitic, and there were no rosy spots. The spleen was very moderately enlarged. He had little appetite, and was placed on a milk diet. At no time during the course of his illness could plasmodia be found in his blood, and it caused no clumping when Widal's reaction was attempted. On the 24th of the month he had a slight nosebleed. On the 26th the morning temperature became 99. A few days later in the afternoon rise became less and of shorter duration. For instance, on Jan. 1, his temperature was not above 99 from 4 a. m. to 2 p. m., and not above 100.5 from 3 p. m. to 7 p. m. A 8 p. m. it reached its maximum, 101.2.

About a week before this I observed that the first sound of the heart was peculiarly feeble, so weak in fact as to be almost inaudible. The next day it was not quite so feeble, but near the left margin of the sternum, opposite the second intercostal space, a roughness of the second sound was every evident. This gradually became more intense, and finally a clear rough murmur could be heard. It was audible in an area about as large as a silver dollar. No thrill could be felt, and the heart was not enlarged. His pulse was of medium size, soft, and showed from 84 to 96 heart-beats per minute. His temperature was low, except for a short time in the afternoon, when it sometimes reached 102, and always 101.5. On January 6, his temperature was 100.4 at 8:30 a. m.; 101 at 2 p. m. At 1:50 p. m. he had a severe chill, which lasted twenty minutes. His temperature rose to 104.5 at 6 p. m. During the evening he sweat profusely. At 9:45 the next morning he had a similar chill. His temperature at 10 was 104, and it reached 105 at 4 p. m. Profuse diaphoresis followed the chill and fever. On the 8th he had no chill, but on the 9th he felt cold at noon, when his temperature was 103.4. Up to this time he had been bathed as typhoid patients are. He had become greatly emaciated and very feeble. Recovery seemed very improbable. Daily inunctions of unguentum Credé were begun. He had no more chills and his fever steadily lessened. On the 15th his temperature was 99.4 at 5 a. m., 97.6 at noon, and 101 at 10 p. m. The inunctions were discontinued. Two days later he had another chill and his temperature rose to 103. The following days it was 102.2 at 8 a. m., 103.5 at noon, and 102.6 at 4 p. m. Daily applications of the ointment were again commenced. After January 20, his temperature did not exceed, and rarely reached, 100. He steadily improved. He was able to take more nourishment and gained strength rapidly. The heart murmur continued, but was not so rough in quality as at first. Although his temperature had been normal for a week, on January 31 he awoke with fever. It was then 102.8; at 10.30 a. m., 101.4; at 1:30 p. m., 102.2; but the following day it was again normal. There was no apparent reason for this rise of temperature. For ten days the thermometer rarely registered an oral temperature of more than 98. On February 20, after he had been sitting up for some days, his left leg became moderately edamatous to the hip. There was pain and tenderness in the calf of that leg. By March 4 all evidences of this phlebitis was gone. On the 6th he was discharged from the hospital. He had nearly regained his weight. He felt perfectly well, but lacked endurance. Slow walking did not quicken his heart. Its sounds were normal, except that the second at the base was slightly rough. It would be called an impurity rather than a murmur. His digestion was good. During his illness his urine was examined frequently; it contained a trace of albumin only once. A positive diazo-reaction was obtained several times. On January 1, his blood contained 3,860,000 red corpuscles and 5200 white. March 5, it contained 5,020,000 red and 6800 white. At no time did he have pulmonary symptoms.

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* Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

When this patient first entered the hospital a diagnosis of gastroenteritis was made. When his fever began typhoid was feared, but except for the continued high temperature there were no symptoms of it. The possibility of malignant endocarditis was considered soon after the pyrexia developed, and I felt that the diagnosis was confirmed when the persistent cardiac murmur was discovered.

The history of this case is that of an acute infection of a severe type, in the course of which a heart murmur persistent and characteristic of aortic regurgitation developed. The fever was not typhoid, malarial, tubercular, nor could a source of sepsis be readily found. The course of fever and its severity made the case during the first of his illness resemble those cases of acute endocarditis which are described as typhoidal. Later the type changed, and it became distinctly septic. Such a change of type I have seen in several other instances.

A hard and fast line can not be drawn between simple and malignant endocarditis. Anatomically they are identical. Those cases in which high fever seems to originate from endocarditis are usually called malignant.

In this case there were none of the usual sources of infection, such as pneumonia, abscess, suppurating wounds, gonorrhea, or middle-ear disease, and it was not preceded by any typical infection. Is it not possible that the chronic gastritis may have made infection possible? This recalls to my mind another case seen by me several times in consultation, in which severe subacute enteritis seemed to be the channel through which infection occurred. Intense putrefaction of the contents of the intestines lasted for some weeks. It was accompanied by persistent fever of moderate grade, which was intensified whenever the putrefaction was. The patient had a chronic valvular disease of the heart, which was well compensated. During his long illness his physician, who had attended him for many years, noticed no changes in the character of the physical signs of heart disease. Nor did his heart or the murmurs change while I saw him. The existence of malignant endocarditis was suspected or thought possible, but could not be demonstrated until near the end of life, when embolism in many places and finally a rapid enfeeblement of the heart made it evident. In this case no wound or channel through which infection was likely to occur could be found, unless the intestinal disorder, which was chiefly characterized by intense putrefaction in the fecal mass, afforded it.

It has been my lot to see numerous cases of malignant endocarditis. This is the first in which I have seen recovery.

In 1888 Sansom[1] described a case. The evidence of chronic valvular disease did not disappear, but septic infection did. This case was treated with sulphocarbolate of zinc.

Pye-Smith[2] reported a case of recovery from ulcerative endocarditis, in which emboli had been observed in various arteries.

James Finlayson[3] reported an attack of ulcerative endocarditis in a boy, aged 10 years, ending in recovery. The case presented an alarming feature in the frequent occurrence of paroxysms of pyrexia. During these paroxysms, however, no rigors could be recognized. The patient, having rheumatic disease, was first treated by the usual antirheumatic remedies. When the paroxysms of high fever developed, quinin was administered in large doses. After six months the patient was dismissed from the hospital as convalescent, and a month later was reported quite well, active in his limbs, free from cardiac symptoms and gaining flesh.

Dr. Sainsbury[4] reported a case of ulcerative endocarditis in a boy, aged 13 years, cured by antistreptococcus serum. The cardiac dulness began in the first left intercostal space and extended to the right sternal border. The heart's apex-beat was in the fifth space, four inches to the left of the midsternal line. There was a well-marked thrill and a double-murmur at the apex. The liver and spleen were not palpable below the costal margin. The patient was admitted to the hospital and 15 grains of salicylate of soda were administered every two hours in a mixture. Then treatment with liquor hydrargyri perchloridi was commenced. The boy grew languid and took food badly. After about two months of treatment 20 c.c. of antistreptococcus serum was injected. During the next eight days 10 c.c. were injected four times. The area of cardiac dulness became again normal, and the heart's apex-beat well within the nipple line. Examination of the blood showed no streptococci, five days later another 10 c.c. of serum was injected. This was followed by marked improvement, and a week later the patient was able to be out.

A case of ulcerative endocarditis successfully treated by antistreptococcus serum is reported by J. W. Washburn.[5] The patient, a female, aged 22, came under observation a few days after the commencement of the illness. During the first seven weeks she suffered from an ill-defined septicemia, without any local manifestation of the disease. Up to the time when serum was first injected she was progressively losing ground, and a few days before the commencement of the injection the pulmonary valve became affected. The result of the treatment was most satisfactory. At the end of five weeks injections were given every other day instead of daily.

Dr. Margaret Dunn (Pearse)[6] records the case of a girl, 16 years old, who was also treated with antistreptococcus serum.

Moritz[7] reports a case of ulcerative endocarditis cured by antistaphylococcus serum. The patient, aged 22 years, had had gonorrhea and cystitis eight months previously. At the time of the onset of the malady no gonococci could be discovered. A musical murmur was heard, and the diagnosis of malignant endocarditis seemed to be beyond doubt. Moritz decided to try antistaphylococcus serum, because a previous case had shown after death the presence of the staphylococcus albus and aureus. The acute symptoms disappeared after six injections of 5 c.c. of the serum. The temperature was normal about six weeks later. Metastatic inflammation was observed in the right calf and in the left ankle after two of these injections, but no suppuration occurred.

It is difficult to determine from the scattered literature of the subject what is the mortality of malignant endocarditis. Occasionally cases such as these are recorded. The much larger number of fatal cases are not. The mortality is high, and the malady is rightly regarded as almost invariably fatal.

It is not possible from these few cases to discuss treatment satisfactorily. It is a noticeable fact that the majority were treated with remedies believed to have some specific value in combating streptococcus or staphylococcus infection.

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DISCUSSION FOLLOWING SYMPOSIUM ON ARTHRITIS.

Dr. F. A. Packard, Philadelphia—At the present time rheumatism is a term used to cover much of our ignorance. It is now applied to almost any painful affection, such as neuritis, myositis, pleuritis and various forms of endocarditis, even where there is nothing in the history of the case to warrant the diagnosis of rheumatism. Rheumatism should not be the diagnosis, simply because there is present trouble with the endocardium or an affection of any one structure. The occurrence of endocarditis, pericarditis or inflammation of other serous membranes does not warrant the diagnosis of rheumatism. These occur from a variety of infections. If we diagnosticate various lesions as rheumatic we are in danger of covering our heads in the sand and ceasing to look for ultimate etiological factors in each particular case. A proper definition of acute articular rheumatism would, I think, be as follows: Acute rheumatism is a well-defined series of morbid signs and symptoms produced by an etiological factor at the present time not definitely known, but probably of micro-organismal origin. The process is characterized by a tendency to attack serous membranes, notably the heart and endocardium.

It seems to me that in arthritic diseases there is quite a distinct series of gradations, each being separate and distinct, a regular and progressive series leading from acute articular rheumatism to the various arthropathies. Starting from, 1, acute articular rheumatism, one can pass to, 2, the acute arthritis occurring in the course of well-recognized infections, such as scarlet fever and gonorrhea; 3, chronic infectious arthritis, such as is especially seen in children and young adults, in which we can not always find the seat of primary infection; 4, somewhat allied to these are cases of arthritis deformans; here there is a strong likelihood that the infectious nature of the disease will be in a short time, absolutely proven; as Dr. Kelly pointed out, in the disease there are various atrophic changes, probably due to lesions of the central nervous system, produced by absorption of toxins from the infected joints; 5, the arthritis of gout; 6, midway between rheumatoid arthritis and the changes in gout might be placed the spinal arthropathies, although these are apparently at first purely degenerative changes.

Given a case of endocarditis with growing pains, why should we call it a case of rheumatic endocarditis? There is no possible reason, unless we accept the frequency of the occurrence of endocarditis in acute rheumatism as a proof of the relation. I believe that in pleurisy it is a great mistake to speak of rheumatic pleurisy unless it is due to tuberculous infection or is due to extension from the underlying lung. As with endocarditis, so in the case of pleurisy, the pleural serous membrane can be involved in any infection, and the so-called rheumatic pleurisy is in reality a mild infection of the pleura.

Rheumatism is not a nervous disease; the only possible reason for thinking of the nervous system in connection with it is because of the atrophies occurring in the neighborhood of the inflamed joint. Regarding the lactic-acid theory, because Richardson injected lactic acid in animals and found change in the endocardium, this theory held sway for a long time. It is now abandoned. The excess of lactic acid in rheumatism is an effect of the disease and may possibly produce some of the symptoms secondarily. Personally I believe that acute articular rheumatism is an infectious process, probably not caused by one particular organism, but by various organisms. Access to parts may be obtained through various points of entrance, that more frequently employed being the mucous membrane of the throat. I would finally make a plea for a more careful nomenclature, in regard to all of the group of lesions of joints, serous membranes and fibrous tissues to which the term "rheumatic" is now so frequently applied.

Dr. J. H. Musser, Philadelphia—I have been well repaid for my attendance here to-day. I am somewhat in a quandary in regard to the classification of rheumatism. I feel that Dr. Packard's classification is a satisfactory, provisional one. In my own mind I am accustomed to divide joint lesions in accordance with the form of infection, which is causal. We must bear in mind that a number of joint cases have undoubtedly a toxic or chemical origin, not only the toxemia of gout, but also that due to diseases of the gastrointestinal tract. I should like to lay particular stress on the number of cases of toxic origin frequently associated with the skin lesions which are also seen in rheumatism; in this broad class of cases it is quite common to find forms of erythema associated with arthritis which are manifestations of gastro-intestinal disorder as indicated by the symptoms as well as by a physical and chemical examination of the gastro-intestinal secretions.

Dr. J. M. Anders, Philadelphia—Rheumatism is unquestionably an infectious disease, although the infectious agent has not yet been discovered. The leading complications, endocarditis and pericarditis, are always infectious, and, I believe, they will be shown to be due to a toxin or the micro-organism of the disease. The subject of the relation of chorea and rheumatism is of special interest. I find myself in agreement with Dr. Burr when he states that they are not etiologically related, even though, as he stated, acute rheumatic manifestations may precede an attack of chorea. In my experience chorea occurs quite commonly in persons hereditarily predisposed to rheumatism. While, therefore, not in accord with the view that these diseases are specially related, it should be remembered that the period of greatest liability to rheumatism is between the years 30 and 40, and for chorea, probably between the 10th and 15th years. Both are frequently occurring affections. I believe that rheumatic attacks rarely either immediately precede or follow on chorea. On the other hand, in a much larger percentage of cases rheumatism follows chorea at a more remote period. I was glad to hear this point emphasized. He also said correctly that the endocarditis of chorea is not necessarily a rheumatic endocarditis. Endocarditis is an effect and not a cause of chorea. The diagnosis of endocarditis in connection with chorea is confessedly difficult. I think it is going too far to assume that in all cases of chorea in which endocardial murmur occurs it is dependent on an endocarditis; it may be functional. In some of my cases the heart murmur has disappeared after the chorea ran its course. Chorea is not a febrile affection, and when fever develops in connection with the presence of a murmur then we may be justified in making a diagnosis of complicating acute endocarditis. On the other hand, rheumatism is a febrile disease. Here the diagnosis of acute endocarditis as a complication rests upon the fever, a heart murmur, and a slight increase in the area of cardiac dulness toward the left, due to dilatation of the left ventricle. In a paper published a few years ago I analyzed the complications of erysipelas, and of the total number—over 200—I found acute rheumatism to be the most frequent complication, next to abscesses. The danger of mistaking acute articular rheumatism for other forms of multiple arthritis occurring secondarily to acute infectious processes, is great. It should always be borne in mind in attempting a diagnosis of rheumatism that it is, as a rule, a primary affection. In the cases in which the rheumatism is itself secondary to other infective disease it is frequently impossible to differentiate it. Still, I should like to emphasize two points: 1, secondary acute rheumatism is a rare affection, rheumatism being usually a primary disease; 2, the nature of the primary affection should be noted for the reason that it occurs more commonly after certain infectious diseases than after others. It is not uncommon after erysipelas, and I also believe that acute rheumatism does occur, though rarely, during convalescence from scarlet fever.

It is lamentable to note the number of cases of osteomyelitis that are confounded with acute rheumatism. Osteomyelitis is sometimes a subacute affection, or develops more gradually than is usual, and if not recognized early and properly treated produces marked destructive changes. The differential diagnosis between these affections is important. In osteomyelitis, as in rheumatism, we have redness, swelling and tumefaction. While these symptoms may extend clear to the joint implicated, they do not involve the articular surfaces in the early stages of the affection at least. In osteomyelitis the bone is affected and, when making bilateral pressure with the thumb and finger, there is great tenderness, not over the joint, but immediately above or below it. In a case I saw in consultation in the early stage of the affection I could flex and extend the leg gently without causing additional pain; that could not have been done in a case of acute rheumatism. This, of course, applies only to the early stages of the affection. Septic osteitis is usually a mono-articular affection; whereas, rheumatism is a polyarthritis, as a rule; at all events, acute rheumatism in the early stages is almost always a polyarthritis. Yet, one should remember that some of the joints implicated in rheumatism may be so slightly involved as to give rise to little suffering and hence may be entirely overlooked; such cases are often regarded as mono-articular from the start. It is also to be remembered that osteomyelitis may be multiple; this point is important. Fever and joint symptoms are more profound in septic osteitis than in acute rheumatism, except in the subacute cases. Sweats are less common than in acute rheumatism. The therapeutic test with salicylic acid also aids in making a differential diagnosis. It positively relieves the pain in acute rheumatism, but it has no effect in osteomyelitis. I emphasize the differential diagnosis between these two affections because, although they would appear to be surgical from the standpoint of treatment, yet it is the physician who, as a rule, is first called to see them. The question of the prevention of the cardiac disturbances in acute rheumatism is interesting. Not to detain the Section longer I will state that my own rule is to employ the combined salicylic acid and alkaline treatment. It has seemed to me that this method does obviate the development of cardiac complications, the prophylactic influence being ascribable to the alkalies. Dr. Kelly has given us a clear and elegant exposition of the pathogenesis of rheumatoid arthritis.

Dr. Charles G. Stockton, Buffalo.—There seems to be a lack of certainty in considering the ground now open for discussion on the question of arthritic diseases; but the consensus of opinion seems to be that they are infectious diseases; no one in the discussion to-day has been heard to state otherwise; and it has been admitted that it probably depends on no one infection. It has also been stated that we should not regard endocarditis as necessarily the result of rheumatism. Now, endocarditis is the result of infection. Of course nearly all admit a small group of infections which produce in individuals acute affections that have a rather definite clinical history and are relieved by the administration of salicylates; and this group is named rheumatism. We agree to speak of rheumatism as a specific disease; perhaps it is. If we could regard rheumatism as depending on one influence, it would simplify matters. Have we reached that point? I think we have not. So far as we understand acute rheumatism to-day it is not always due to one particular infection. Take the other extreme and speak of chronic joint affections; there are unquestionable reasons for believing that they depend on neuropathic conditions. We may get that extreme in the Charcot's joint. Dr. Kelly has presented all we know, and as well as it could be presented, when he used the expression "neurotrophic infections." When he referred to "neurotrophic infections" I did not understand; but as he further demonstrated his position I could see that he meant that the weakness of certain structures permitted infection to find place. I think that is a reasonable position to hold. It is a position parallel to that taken in the admirable paper read yesterday by Dr. Preble. There are conditions that produce different results in different individuals, depending on the lowered resistance of certain parts. Having reached such a point of view, we may go back further and state that there are certain conditions in certain individuals called "diatheses" which influence the development of arthritic conditions. To admit some other influence besides the action of infection in producing acute and chronic rheumatism seems to be necessary. Diatheses represent some of these influences.

Dr. Louis Faugeres Bishop, New York City—I believe there is a disorder of the chemistry of the body as well as infection. I believe that there are disorders of the powers of nutrition besides infection. By classifying these disorders into certain groups we can get a better idea of arthritic affections. Take that which is most striking, acute rheumatism; this is undoubtedly a specific infectious disease. Certainly, in the spring of the year the hospital wards are filled with cases of an acute rheumatism; a disease that attacks young adults, coming on suddenly with temperature and with pain in a joint, that spreads to other joints of the patient; a disease with a tendency to endocarditis. Toward the middle of the summer many of these cases have entirely recovered without any tendency to recurrences. Such a patient may go the rest of his life without another attack of rheumatism. That is acute rheumatism and represents an infection. On the other hand, gout is a disorder of the chemistry of the body whereby insoluble urates replace soluble urates in the system. I believe that much stated about uric acid in relation to gout is a great humbug. Gout is a complex disorder of the body chemistry.

Again, there are disorders of the tissues of the body due to trophic disturbances. The nervous system is so perfect in action and so little liable to disorder that we do not realize how dependent the nutrition of the body is on the nervous system. I lately saw a case in which the trophic influence was cut off, showing how important this is. A patient developed myelitis of the lower end of the cord. In the course of a few days he had excavated ulcers over the sacrum. The myelitis cleared up and repair took place in the course of a few months. That is an extreme instance of trophic change. The nervous system sometimes becomes disordered and disturbed through other affections; for instance, in persons who have undergone shock. The general trophic powers of the nervous system are disturbed and there may be developed arthritis deformans. As the Doctor has stated in his paper on this disease, there is probably some disturbance in the trophic centers that control the joints.

Now, having clearly stated that there is an infectious articular rheumatism, that there is a disturbance of the chemistr of the body and that there are neuropathic disturbances, then to clearly define the various arthritic cases we must consider that there is often more than one of the causes existing at the same time. If, also, we get a clear understanding of the various blood infections and if we remember that the sick are specially liable to the development of these poisons, we can explain a great many symptoms by secondary infection in the acute rheumatism, in gout, or in neuropathic trophic conditions. In reference to chorea, it would seem that, like rheumatism, it has been too definitely defined. We have Sydenham's chorea, which is fairly a well-defined disease like acute rheumatism; but there are other forms of choreic movements. It sems to me that chorea major is a different disease, and probably a disease due to some more serious infection. We have choreic movements due to other diseases than chorea: among these are septic infections. For instance, I have seen choreic movements develop after measles, having probably no connection with ordinary chorea; it was an entirely different condition. Although I have examined many hundred cases of chorea and discovered many murmurs, I believe that only a few of them were due to an endocarditis. I do not believe that chorea and rheumatism are the same disease. Rheumatism is confused with other infections, and chorea often complicates these other affections.

Dr. G. W. McCaskey, Fort Wayne—I protest against the term rheumatism, except when applied to the definite clinical picture which we all recognize. We should drop that indefinite term in a large group of cases which have no connection with rheumatism. I wish to refer to the subject of arthritis deformans. I do not know whether to use the term infection or not; I think that it is a toxemia, the toxin resulting from some sort of germ infection gaining access to the blood and so affecting the tissues with which it comes in contact. The origin of the poison is, I think, most probably from the gastrointestinal tract. I may say in this connection that I have not found a single case in which there was no evidence of gastrointestinal disturbance or toxemia from this source. While the treatment is, perhaps, outside the scope of this discussion, yet I wish to refer to one experiment recently made by myself with cataphoresis. The negative electrode was placed over the forehead and both hands were immersed in a saturated solution of iodid of potassium in which the positive pole was placed; the current was then turned on as strong as the patient could bear it.

Dr. S. Solis-Cohen, Philadelphia—Arthritis deformans is still something of a scrap-bag. It must further be subdivided into several classes. Acute cases chiefly affect the large joints, while the chronic cases chiefly affect the small joints. In the chronic cases there are at least two classes, those in which a spindle-shaped deformity develops and those in which lateral deformity results from exostoses. If infection has to do with arthritis deformans it is more probable that it will be found in the acute than in the chronic cases. The latter probably depend more largely on metabolic error. If Dr. Kelly will modify his formula and substitute for infectious trophoneurosis, the term toxic trophoneurosis we shall all agree with him. There is one drug of much value. That drug is the tincture of the chlorid of iron. It must be given freely and frequently. By a simple pharmaceutical device, the use of ammonium citrate may be combined with sodium salicylate; this combination seems especially useful in anemic persons and in recurrent and lingering cases. To prevent the cardiac complications, we must give an alkaline course pushed quickly until the urine becomes and remains distinctly alkaline. Why, I do not know. Methyl salicylate—oil of birch or oil of wintergreen—can sometimes be given when other salicylates are not well borne. It is a question of the individual and of care in administration. Locally these oils are sometimes very useful.

Dr. D. Riesman—Regarding the treatment of rheumatoid arthritis I would recall to the Section a case which I reported at the Philadelphia meeting three years ago. It was a young woman who had been unable to stand or walk for seventeen months on account of rheumatoid arthritis involving, among other joints, also the knees and ankles. The knees were flexed, but by the use of extension, such as is employed for fractured femur, the legs were gradually straightened out. The apparatus was on altogether sixteen weeks. The disease was arrested and the patient was able to walk and ride on the bicycle, although for many months distinct grating in the joints persisted. I am convinced that if extension had not been employed she would have been hopelessly crippled despite the arrest of the disease. The treatment I employ in acute articular rheumatism is salicylate of sodium in large doses, combined, if the heart shows any signs of involvement, with the alkalies; and in that case the latter are given in large doses until the urine is alkaline in reaction, after which the dose is reduced. The diet consists of milk and lemonade, and the patient is kept between blankets. With respect to the etiology of rheumatism the speakers seem all to be agreed that it is an infectious disease. I believe that we shall find not only that it is an infectious disease, but that the typical disease is due to one species of microörganism—and to one alone.

Dr. James J. Walsh.—It is interesting to note that rheumatic endocarditis always occurs in the left heart. The blood flowing through the left heart has just come from the lungs and is freshly aerated. If the supposed microbe of rheumatism be in the blood-stream it is just at this moment after its recent exposure to the oxygen of the air that it may be considered to have taken on new vitality. On the other hand the comparative absence of oxygen in the venous blood may account for the fact that the right heart is so seldom affected. The aerobic germ of rheumatism is, in its passage throughout the right heart, in a condition of lowered vitality. The connection between rheumatism and chorea has been a matter of a great deal of dispute. One lesion is constantly found at the autopsy of chorea cases. It is a chronic endocarditis. Here seems to be the point where chorea and rheumatism touch. Chorea as we see it is really a nervous disease. Its manifestations may very well be due to an insufficient blood-supply to the motor cortex. The reason for this insufficient blood-supply is the chronic endocarditis that has been noted as occurring so constantly. The affected heart does its work very well until under the stress of over-work, over-study, sudden fright or great emotion, an excessive call is made on its energy. A certain amount of incompetency develops and in the growing child with extreme sensitive nerve cells the disturbance of circulation is first noted by its action on the motor cortex. The endocarditis that leads to this disturbance of circulation is due to a preceding attack of rheumatism, or some other infectious disease. It is well known that chorea may follow almost any of the infectious diseases. Its greater frequency after rheumatism is only due to the fact that in childhood particularly, rheumatism almost never leaves the heart unaffected. The attack of rheumatism which caused the endocarditis may have been almost latent, may have been concealed under the term "growing pains," or may have been a primary rheumatic endocarditis without any arthritic manifestations. The reason why patients who have had chorea have subsequent attacks of rheumatism is that they had rheumatism before they had their chorea, and one attack of rheumatism predisposes to subsequent attacks.

Dr. DeLancey Rochester—In reference to the treatment of acute rheumatism, the use of iron is of the utmost importance. Here there is a tremendous anemia that should not be neglected. The pyrophosphate of iron is of value given in doses of 8 to 15 grains; little doses are of no value. The tincture of the chlorid of iron is of great value in doses of 15 to 30 minims. I believe that no treatment can prevent heart infection. I believe, moreover, in the rest in bed treatment, which tends to prevent dilatation of the heart. Strychnin given throughout the disease is of great value. The bowels should be kept freely open by the use of Rochelle salts. Large doses of sodium salicylate, frequently repeated, should be administered day and night.

Dr. A. O. J. Kelly—In the treatment of several cases of arthritis deformans, I have observed considerable good result from the use of superheated dry air. I recall one case in particular, that of a middle-aged woman, who, in August last, was admitted to the medical wards of the Hospital of the University of Pennsylvania to the service of Dr. Musser. She had to be carried in, as practically all the joints of her extremities were implicated, more especially the joints of her hands and feet. In addition to repeated treatments with hot air she was given some alterative medication and a full nutritious diet. After treatment lasting for a couple of months, she left the hospital able to walk without a cane and able to do fine embroidery. That the desired results be attained, it is essential to bear in mind that the treatment with hot air must be persisted in for some time even if a dozen or more applications seem ineffectual. It may even be observed that in a few cases each of the early treatments seems to be followed by an aggravation of the pain; the mobility of the joints is, however, almost always increased. In certain cases of acute articular rheumatism this treatment is also efficacious. It finds it especial range of usefulness, however, in those cases that seemingly commence acutely with implication of many joints, but which, instead of subsiding as do the cases ordinarily, pass on to a subacute stage with especial localization of the disease in one joint, usually one of the larger joints. In the majority of cases of acute rheumatism, the first essential is to bring the system rapidly under the influence of the salicylates. Personally, particularly in persons with sensitive stomachs, I prefer the salicylate of strontium. In many cases the pure salicylic acid administered in milk will be found most effectual.

EXTERNAL DRAINAGE OF LUNG CAVITIES.*

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The subject to which I wish to call your attention is one much neglected, though very near to us all, especially to those of us who live in the regions to which tuberculous patients are most frequently sent in all stages of the disease.

Just why abscesses and cavities in the lungs should be allowed to run their course of breakdown and produce infection of the other lung and a pyemic condition of the system is hard to explain in these days of exploitation in all parts of the human body. It is partly due to the timidity of the physician in recommending, and in operating for, the relief of the suppurative process as elsewhere, but chiefly to the reluctance of the patient to submit to operation when there is yet time to do good by such interference.

Of course it would not be good surgery to subject a patient in the last stages of his disease to such hazard with such a very small chance for betterment. When satisfied that we have to deal with a septic condition, due to inadequate drainage by the bronchus and in order to save a patient's strength and life, then I claim it to be good conservative surgery of the most progressive type to drain cavities externally. I hope to be able to sustain my point by two cases operated on by a colleague and myself for the relief of this condition. Both these patients were failing rapidly from fever and sepsis, and each had one good lung, the other seriously damaged, and both were in fairly good condition for operation and willing and anxious to undergo anything that promised relief for their unfortunate condition.

From an elaborate series of experiments on rabbits, reported to the Medical Society of the State of California in 1892, I satisfied myself that the resistance of the pleura was much greater than is usually supposed, and that the lungs could be operated on with much less danger than authorities had formerly taught. I chose this animal for experimental work because of its lack of vitality, which diminished the chances of recovery, and because it would probably follow that the same operation on human lungs would be more so, if the operation on the rabbit's lung was successful. Until 2½ years ago I could not find a patient who would submit to such an operation as I wish to report to you. Several, however, talked of it, but always backed out as the time agreed on drew near. In fact, my first patient went to the hospital for the operation, grew somewhat better temporarily, then declined it and left. Afterward, however, he grew steadily worse, and in six months returned for operation. This was in March, 1898.

History—H. H. H., aged 45, unmarried, was born in California. He was 5 ft., 9 in. in height, and his usual weight ranged from 175 to 200 lbs. He was a ranchman and liveryman, a man of fine physique, with red hair, large chest, was accustomed to all kinds of labor and had been a vaquero. He had comparatively dissipated habits, no personal history of syphilis, and no history of tubercular disease in his immediate family, nor, in fact, among his more remote ancestors. His father and mother were living, aged 75 and 70 respectively, and he had brothers and sisters all well and vigorous, of good size and physical strength.

In October, 1896, having been unfortunate in farming operations, he came to the city, did not find work, was badly lodged and fed, and rapidly ran down in flesh and strength. Then, on December 17, he presented himself with evidences of pleurisy on the left side. The salicylates were exhibited under the impression that the pleurisy was of rheumatic origin. The treatment reduced the temperature and relieved pain; however, after about a week or ten days, evidences of effusion were present within the left pleura cavity. Salicylates were continued and iodid of potassium given, and with repeated counterirritation. The effusion gradually disappeared, as well as the pain and discomfort, and the patient was to all appearances restored to health.

Believing himself to be in good physical condition, he accepted a position as foreman in charge of hydraulic placer mining operations, and this, during the winter, exposed him to all kinds of weather, and also led to constant wetting. The following August the second attack occurred, confining him to his tent for about three weeks, and during this period, according to his statement, he suffered from high temperature and pain on the side previously involved. It might be well to state here that these attacks of pleurisy were not preceded by any pain or inflammation about the joints, and so it was probably tubercular from its inception.

On August 30, 1897, the patient was brought to my office by his physician, Dr. Shorb, suffering from laryngitis, emaciation and cough. He gave the history as above, and stated that during a ride of some twenty miles, over rough mountain roads, a sudden vomiting of about 1½ pints of pus took place, and with this venting a relief of pain.

Physical Examination.—He showed marked emaciation, large frame, good chest development, and, on inspection, impaired respiratory movement of the left side—rapid breathing, his respiration being about 24 to 30 per minute. His fingernails were clubbed on the left hand and the matrix showed evidences of imperfect oxidation. On palpation, there was impaired resonance and increased vocal fremitus at the apex. The lower lobe of the left lung, at a point over the lower end of the scapula, had all the characteristic signs of cavity. There was also, in the apex, a condition either of small cavity or an area of consolidation. However, there existed no question as to the larger cavity. This latter, approximately, extended from the sixth interspace to the ninth rib, and apparently from the spinal column to the mid-axillary line.

The patient gave a history of dyspnea and orthopnea, with vomiting of from half to one pint of pus every morning. Examination of his sputum showed the presence of tubercle bacilli with elastic fibers, etc. He was induced to go to the County Hospital for an operation, and after his admission, showed marked septic symptoms, with a temperature ranging from subnormal in the morning to 101.2 in the evening; he also suffered from night sweats.

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Operation.—A consultation was held and resection of the ribs for external drainage of the lung cavity advised. He was put on tonic treatment and given large doses of creosote for several weeks, with such improvement in his general condition—an increase of 15 pounds in weight—that he declined operation. He remained in the hospital three months, and during this time the amount of expectoration lessened, owing to good medicinal treatment and the creosote, but the septic conditions continued. He gained in weight but not in strength. At the expiration of the three months he returned to his home in San Jacinto, a town in the San Jacinto Valley, inland, 100 miles from the coast and with an altitude of 1500 feet. He remained there until March, 1898, gradually losing ground gained by the former treatment. During the last week of this month his condition grew so serious, and he was expectorating such large quantities of pus continuously, that he came to Los Angeles for operative relief. There an interesting condition was discovered. When first admitted to the hospital, I had intended to make a resection of the seventh and eighth ribs in the posterior axillary line, but after his return an inflammatory area was noticed extending over the fifth, sixth and seventh spaces from the anterior axillary line forward to and below the left nipple, which suggested the advisability of interfering at this point instead of carrying out my original plan. It was red, painful, bacon-like, and presented all the signs of a suppurating focus. The most natural supposition, therefore, was that the abscess had ruptured into the pleural space, and was approaching the surface at this spot. The patient's general condition was bad, temperature 104, heart's action enfeebled, breathing labored and his condition demanded prompt relief.

I made my incision over the sixth rib, in the anterior axillary line, and resected a piece 1½ inches long, found the pleura thickened, the lung very much congested, and even fingered the apex of the heart; but to my chagrin, on opening the pleural cavity, I found not one drop of pus. The patient's condition was so precarious that the operation was cut as short as possible and a large rubber drainage-tube sewed in the wound. Ether was used and, though skillfully given, he almost collapsed on the table, preventing the completion of the contemplated operation, which was to resect more ribs and enter the lung cavity and establish free drainage.

He reacted fairly well, and under bold stimulation passed the eight days following the operation uneventfully, with absolutely no expectoration, though the temperature was extremely irregular. On the morning of the ninth day, the patient was almost choked by a sudden gush of pus, intensely fetid and gangrenous in odor, through the trachea into the mouth, and it also poured forth from the wound. With this free external drainage established through the incision, which continued for months, abnormal temperature instantly ceased, and it remained normal thereafter, septic symptoms only appearing when the free drainage through the incision was interfered with. The patient became so offensive that it was necessary to remove him from the general surgery ward to an isolated room. Dressings had to be changed several times daily. Irrigation with large quantities of bichlorid of mercury solution, 1/4000, were used twice daily; the patient having unusual tolerance for this germicide, derived great benefits therefrom, and never showed any poisonous results from its use. This suppurative process continued for sixteen months, gradually diminishing.

The cavity was opened externally and had a connection with the left bronchus, as evidenced by the taste of the irrigating fluids. The patient did not gain strength during the warm weather of the summer and was losing ground every day, so decided to go back to the San Jacinto Valley in September, 1898. During the summer sinuses formed in front of the incision, following the line of the ribs and cartilages forward almost to the sternum. These were opened and curetted and finally healed. He remained at home, gained strength and cared for himself. He would fill the cavities with a strong solution of $HgCl_2$ once or twice daily, by placing himself in a recumbent position, thus retaining a quart of this solution for several hours, when he would rise up and allow it to flow out through the opening in the chest wall. This he did without the knowledge and advice of his physician. The cough gradually diminished until August, 1899, when it stopped entirely, as did the expectoration.

The patient was not seen by his physicians from September, 1898, 'till December, 1899, although they heard from him at long intervals. He came to Los Angeles and was carefully examined on Dec. 13, 1899. There was absolutely no sign of cavity, only sounds of a consolidation in the left lower lobe and bronchial breathing over the left apex. He is able to work, chop wood—had put in forty acres of grain—can ride horseback, and feels better than for years. He experiences pain only when he stoops over. He has put on 75 pounds of hard, sound flesh since he first came under our care three years ago.

This operation was simply a resection of one rib—the intention was to take out two or more, but respiration was so shallow and the condition so alarming that the operation was hastily completed, a chance for drainage only being possible. After the acute congestion produced pus, the abscess in the lung ruptured in the direction of least resistance, and the pus gushed forth up through the bronchus and out of the wound in the side. Gravity drainage through the chest wall rendered coughing unnecessary.

Undoubtedly the climate and surrounding conditions had much to do with the improvement of this patient, and he might not have recovered at the County Hospital. On the other hand, he had absolutely no attention for sixteen months, other than that given by himself. The pus simply ran out through the incision, and he washed, irrigated and dressed his wounds as he had been taught and as best he could for himself. It is a remarkable case, and well worth considering, even if what was intended at the outset was not entirely carried out owing to the man's dangerous condition while being operated on. The man had bacilli in the sputum and was in a desperate condition and the beneficial effect of the strong solution of $HgCl_2$ on the suppurative process is well worth considering.

Case 2.—M. L. D., aged 30, married, by occupation a traveling salesman, for a number of years had been exposed to all sorts of weather in northwestern Iowa, poor hotel accommodations, irregular hours. His family history was negative as regards a tuberculous taint, his parents, two sisters and one brother living in good health.

He enjoyed perfect health, weighing 128 pounds on an average until two years ago, when he had an attack of pleurisy on the right side. This occurred in July, 1898, and he was laid up two or three months. His recovery was gradual and he returned to his work, but a dry, hacking cough remained with no expectoration. In April, 1899, he began to expectorate freely, and for the first time was told that his lungs were affected, tubercle bacilli being found in the sputum. He immediately went to Chicago and consulted Dr. John B. Murphy, who also found tubercle bacilli. Dr. Murphy advised against the use of nitrogen gas in his case and recommended Colorado as a health resort. The patient returned to his home in Iowa and, in the following month had a second attack of pleurisy on the same side. He was ill six weeks and convalesced slowly. This time he was expectorating freely, suffering severe pain in his right side and having night sweats. Under the judicious use of morphin the pain was controlled and he gained 14 pounds in weight before coming to California. In July, 1899, at a weight of 114 pounds, he came to Los Angeles, and put himself under the care of Dr. J. de Barth Shorb.

Physical Examination.—Inspection showed the characteristic phthisical chest. There was no evidence of increased vocal fremitus or vocal resonance, but dulness was slightly increased over both lungs. Percussion and auscultation discovered a cavity which extended from the end of the scapula as far down as the last rib and from two inches to the right of the spinal column to the mid-axillary line, on the right side. Auscultation revealed fine crepitant râles in the apices of both lungs and evidences of bronchitis. There were evidences of compression of the right lung above and in front of the cavity already mentioned. Expectoration at this time was scanty, averaging probably a teaspoonful in twenty-four hours. The temperature varied from subnormal to 103, and the patient progressively lost in weight. He was advised to submit to operation for the purpose of draining the cavity in the back at its most dependent part.

Operation.—This was performed at 9 a.m., Jan. 11, 1900, at the Good Samaritan Hospital, several physicians present, and after careful preparation for several days. Ether was the anesthetic. Section was made over the angle of the eighth and ninth ribs on the right side, three inches from and parallel to the spine. The incision was four inches long, two inches of each rib was removed forward of the angle, no vessels except those of the skin being opened, and the periosteum and nerves pushed out of the way. The patient took ether badly and I was obliged to hurry, so hastily opened the pleura and found I was just behind the posterior edge of the cavity's adhesion to the chest well. The man's condition prevented extension of the wound forward. The pleura was carefully but hastily examined and found to be perfectly healthy and smooth. An attempt was made by both of us to push the index finger into the cavity, which could be distinguished by feel, considerable force being used, but the wall was too strong, both of us being sure of its existence, though not daring to use the knife as we had intended. There was absolutely nothing in the pleural sac. The lower lobe collapsed behind and below the adhesion over the cavity to the ribs, as above noted.

Operators were much chagrined that the cavity was not opened directly as planned, but the prolongation of the operation meant death to the patient, on the table, so the pleural sac was hastily wiped out with sterile gauze and the skin wound closed with silkworm gut interrupted sutures as quickly as possible, without drainage; a thick, firm, gauze compress and dressing was applied. The intention was to operate again farther forward. The patient reacted well.

On January 17, six days after operation, the temperature was 103 F. We removed the stitches, the wound being perfectly healed and dry but the skin distended; fluctuation was noted. The skin wound was opened freely and nearly two pints of brownish, fetid pus gushed forth. On digital exploration, the finger entered directly into the lung and discovered a large cavity, location and size as diagnosed. The wound of the pleura and cavity of the lung was irrigated thoroughly with weak formalin solution and sterile water afterward, and the cavity packed with sterile gauze, the lower level of the pleural sac walled off from the general sac and pleura, washed and dressed daily as indications required. On Jan. 18, the temperature dropped to 97.5 and then went up to 98.4, and on the 19th to 99. There was much pus, but the condition was improving. On January 28, we withdrew all gauze; there was little discharge, and granulating at the bottom, the man doing well, with a pulse and temperature slightly above normal. By January 29 he was improving every day.

The bruising of the pleura by the fingers in the attempt to enter the lung cavity produced, by ulceration, the connection with the external incision desired and gave the gravity drainage sought. Undoubtedly the pleura was the better prepared for its fetid bath by the handling it received and the consequent inflammation and covering of its surface with lymph. The improvement in pulse and temperature is good evidence of this and proved the desirability of and justified the operation.

Immediately following operation, and with the establishment of drainage posteriorly, the patient's condition began to improve. His temperature went down and his appetite and strength increased. Within a month following operation there were evidences of communication of the cavity with the bronchial tubes, as shown by the coughing up of pus on three distinct occasions and the ability to taste the irrigating fluids.

Since this I regret to acknowledge that the patient has not continued to improve and there is marked evidence of involvement in other parts of the same lung, and he is losing strength and weight; but the operative wound through the chest wall into the abscess cavity is still open and discharging a very small quantity of pus.

These cases are unique in many respects: 1, from the fact that the patients had been given up to die, both being tuberculous, as demonstrated by the physical condition and by the microscope; 2, in consenting to operation; 3, in behavior under the anesthetic (ether) due to impaired respiratory power; 4, immediate improvement after operation, as to temperature, pulse, cessation of fever and cough and no expectoration of pus as soon as pus drained through the external wound; 5, while in both cases the condition prohibited the completion of operation as planned, still indirectly the purpose of operation was attained—having by interference established a point of least resistance for the abscess to rupture and discharge its contents.

These cases were very different in history, physical strength and other characteristics, the chief difference being that in the first there was a direct communication between the abscess cavity and the bronchus, and in the second case no apparent vent existed at all, and in each case the patient was dying as a result of absorption of septic matter, and prompt surgical interference was suggested as the only means of relief. In each septic symptoms ceased as soon as external drainage was secured.

In the first case reported the condition was not one of empyema, because there was absolutely no pus in the pleural space when it was opened, and not until the consolidated area about the abscess cavity broke down and ruptured in the direction of the least resistance, viz., toward the incision in the chest wall, was there any pus. That there was a damming back of pus is proved by the cessation of cough and expectoration for eight days after operation, and then suddenly the patient was nearly choked by a gush of intensely fetid pus upward, while at the same time pus flowed in quantity through the incision in the chest wall, and so continued to do, whereupon the cough ceased and also the expectoration, showing that gravity drainage was effectual. The patient, while much exhausted and run down, gained slowly and steadily and, having the best climatic conditions, recovered. Had he remained in the County Hospital among tuberculous patients he would have almost certainly succumbed to the disease.

The second case is as good a test of this mode of treatment, by reason of his less vigorous physique and long exposure to the sudden changes of Iowa and Nebraska and the greater progress of disease and the naturally depraved fiber of the man. If this patient, who is convalescent now, does not recover he will have demonstrated the correctness of the theory of this mode of treatment just as well as does Case 1. This man's septic symptoms stopped at once, his temperature fell, he did not cough, was more comfortable and gained weight slowly but steadily, leaving the hospital at the end of the eighth week. He is now under the care of my colleague, Dr. Shorb.

Both patients took the anesthetic—ether—badly and almost collapsed on the table. In each, owing to bad general conditions, the operation could not be completed as planned, and in each, owing to the handling and exploring with the finger as much as we dared, we accomplished indirectly what we otherwise would have done had the patient borne prolongation of the operation well. The fact that we did not do and find what we expected does not detract from the merits of the operation and the benefits to the patients, and we shall always feel that we did the correct thing and are ready to do the same operation again for similar conditions, only hoping it may not be necessary to hurry or change plans.

A half-completed operation is better than a dead patient, and the beneficial results from the half-finished and changed plan of operation are just as satisfactory to the patient if not to the operator. These patients knew exactly what they had to expect—discomfort, suffering and certain death under the usual let-alone or roundabout medicinal plan of treatment on the one hand, and a slim chance for betterment by the proposed operation on the other. The second patient was being examined in my office when the first came in, looking so robust and well that these men, the one recovered and the other considering the same plan of treatment, were introduced to each other and had many talks before the second consented to operation, and that he did so was only due to the proof of benefit exhibited to him by the other's recovery and his satisfaction with operative treatment.

I wish to acknowledge my indebtedness to Dr. J. de Bart Shorb, of Los Angeles, for his valuable suggestions and assistance in the treatment of these patients.

DISCUSSION.

Dr. John B. Murphy, Chicago—The purpose of drainage of the chest is a very important one, but I will not go into the objections attending it. The methods of drainage are two, internal and external. We can either drain the abscess through the bronchi or an external opening. We drain through the bronchi where we have no adhesions, but where we have adhesions the life of the patient would be jeopardized. If we make an incision into the chest cavity we immediately have the entrance of air. Through the opening you can grasp and palpate the abscess. Unless great care be used you are likely to have a septic pleurisy develop. You have an operation that can be performed with comparative safety, which is that of pressing the lung, allowing the pus to escape through the onchus. You can also puncture the chest and allow the patient to inspire air. About 170 cubic inches of air may be aspirated, and the patient can have his chest filled every third day if you wish to hasten the process. There is no inconvenience from air taken in that way. Of all the injections of air into the pleural cavity we have had but one accident, and that was where the needle was inserted while the tube was connected. I never have the tube connected when I wish to insert air into the chest. By this method you can fill air into the chest and drain the cavity effectually, but in cases of adhesions this is impossible. Many surgeons fear to open the chest, but their fears are groundless. You can palpate the lung just as well as you can palpate in the pelvis, and you can locate your abscess exactly. Do not make the mistake of endeavoring to reach it with a Paquelin cautery, for you will find the lung will retract in the chest out of reach of the cautery, unless an incision be made in the chest wall large enough to enable you to seize the lung or unless it be adherent. You will have less oozing in these cases than you might think for, but the abscess will heal perfectly.

Dr. Le Moyne Wills—Of course we have the advantage of a dry climate, which means a great deal in these cases; otherwise my patients would almost certainly have died. The second case was operated on only last January, while the other case was operated on two years ago.

The first case spent fifteen months, after leaving the Los Angeles County Hospital, in the San Jacinto Valley, in the open air, at light work, and was undoubtedly greatly assisted in his cure by climatic conditions. Had he remained in the County Hospital he would certainly have died. You do not have the opportunity to place your patients in such an atmosphere. These are not the kind of cases you see, whereas we see many of them.

I have experimented on rabbits from time to time since 1892, and have learned much from my work. My patients had the courage to consent to, and go through with, the operation and are perfectly satisfied with the result, although the surgeons may not be. The second case is not likely to live long, but is much more comfortable and will live longer than he otherwise would have done, without external drainage. The first man practically got well by over-flushing with a strong solution of mercury bichlorid, for I really believe the bichlorid did it. He is doing manual labor, keeps up his weight and strength, and is perfectly satisfied. I hope to be able to continue this subject at a later date.

SURGICAL ERRORS IN SKIAGRAPHY.*

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The ease with which some small bones of the human body can be reproduced by the Roentgen rays on a photographic plate led many medical novices, and even ignorant laymen, to the indiscriminate use, or rather abuse, of the rays.

For the ignorance of unskilful operators many distorted Roentgen ray pictures are responsible. Some of them caused such fatal errors that even well-experienced medical men felt a great disappointment in the results. But in considering all these errors, some of which were indiscriminately heralded through the medical as well as the lay press, it becomes evident that the Roentgen rays never lie, but that it is entirely our own imperfection which induces some of us to err under peculiar circumstances.

In the first place, we should never forget that a so-called Roentgen-ray picture is by no means an ordinary photograph of an object, but a silhouette only (skiagraph), i. e., a photograph of its shadow. To interpret such shadows properly a thorough knowledge of the normal anatomic relations of the tissues, especially of the bones, that produce such shadows, is required. As the most minute gradation of density is registered, the importance of being thoroughly acquainted with the anatomic relations of the bones producing the doubtful shadow is obvious, and for this purpose it is necessary to have the pictures of the shadows of the normal structures of the body always at hand for comparison.

There are slight irregularities of the surface of normal bone, which we could neither recognize nor appreciate before the Roentgen rays were discovered. Their shadows may at first sight appear to represent pathologic processes, but prove to be normal by thorough comparison with a normal skeleton. On certain portions of the normal skeleton the muscles and tendons would naturally cause obscure shadows. The carpus is especially likely to produce such errors in the skiagraph; the tuberosities of the trapezium, the scaphoid, the hamulus ossis hamati, the os pisiforme, and the eminentiæ carpi volaris radialis and ulnaris double up the thickness of the carpus, thereby causing dark shadows which might be mistaken for foreign bodies. Similar considerations and similar cautions apply to the other diagnostic opportunities offered by the rays.

If a skiagraph of the human hand is taken, for instance, the plate will show the least light where the bones rest, while the soft tissues appear opaque. There is also a difference of opacity according to the thickness of the tissues, their blood-supply, and their air capacity.

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The foot, while easily skiagraphed in the direction of the dorsum toward the planta pedis, from the toes up to the upper third of the metatarsus presents an obstacle farther backward in the first and third cuneiform bones and the scaphoid, so that it is necessary also to skiagraph the foot on these portions transversely by having the outer surface rest on the support. It is by this procedure only that the isolated shadows of the astragalus, the calcaneum, the os cuboidum, the scaphoid, and the fourth and fifth metatarsal bones can be distinctly outlined, so that false interpretations may be excluded.

In the early era of the Roentgen rays the normal sesamoids were also sometimes incorrectly interpreted.

How important the knowledge of minute anatomic detail is, especially of non-pathologic abnormalities, will be evident from the fact that the os intermedium cruris —os trigonum tarsi—has been mistaken for a fragment severed from the astragalus. This bone is a typical part of the tarsus of all mammalia, and is estimated at from 7 to 8 per cent.

Shepherd, who mistook this bone for a fractured fragment, says: "The fact that this fracture is not mentioned in any of the text-books of surgery or in special treatises on fractures would easily be accounted for by its only being discovered by dissection; it causes no deformity, and the symptoms it would give rise to during life would probably be obscure." The same author tried to produce this fracture artificially on the cadaver, but "in every case," he says, "where this maneuver was performed, I failed, even when the greatest force was used, to break off the little process of bone mentioned above." Pfitzner regards the os trigonum tarsi as an integral part of the posterior process of the astragalus in the adult, which is analogous to the os intermedium antibrachii.

The practical significance of this bone is evident from a case described by Williams, which is also highly interesting from a medicolegal standpoint: A laborer claimed that he was injured by an iron bar, on Jan. 20, 1897, but was able to work during the whole day, but the following day he called on Dr. Wilmans, complaining of intense pain at his internal malleolus. He limped and emphasized his inability to work. Dr. Wilmans found a slight swelling below the right internal malleolus. Ecchymosis of the skin being absent, the swelling was attributed to the presence of a considerable degree of talipes, from which the laborer suffered at the same time. The leg was elevated and fomentations were applied for several days. The laborer still complaining of great pain, it was decided to transfer him to a hospital for observation. When discharged, after several weeks of treatment, he made an effort to resume work, but at once declared that he was unable to keep it up. He was therefore admitted to another hospital, where he repeated this maneuver several times during a period of six months. Finally he claimed damages for having been crippled by the injury sustained on the date above, but in view of the negative objective condition found by Dr. Wilmans, the society decided not to grant any claims. The consequence was that the laborer was transferred to the surgical division of a third hospital for further observation. There he complained that he had continuous pains below the right external malleolus, even while in the recumbent position. The pain increased while walking or sitting. Stepping on the right heel, he also declared to be impossible. By distracting his attention, however, it was noticed that he could stand well on his heel, and he would undoubtedly have been declared a malingerer had not the Roentgen rays, mirabile dictu, come to his rescue, at least temporarily, for a skiagraph showed a bone-fragment at the junction of the astragalus with the posterior surface of the calcaneum. On the strength of this skiagraphic "proof," Dr. Wilmans, although still mistrusting, was forced to modify his original opinion, and certified that the patient suffered from "fracture of the astragalus, in consequence of which he was damaged for life." The laborer therefore received an annuity of 30 per cent., in proportion to the estimated curtailing of his wages.

Soon afterward the laborer was discovered by Dr. Wilmans carrying a heavy load without any apparent pain, while formerly he had claimed to be unable to walk without a cane or a crutch. The Doctor insisted on a second irradiation, this time also skiagraphing the uninjured left foot. The skiagraph showed the "severed bone-fragment," which had first been regarded as a sesamoid of the musculus flexor longus hallucis, but which was now recognized as a normal os intermedium cruris. The society, of course, refused the annuity, and the German Supreme Assurance Court, to which the laborer had appealed, not only sustained the verdict of the society, but also decided that the laborer must return the annuity which he had unjustifiably enjoyed for eighteen months.

The significance of a skiagraph for the purpose of estimating the degree of functional disability is not always conclusive. A skiagraph may show a considerable degree of bony deformity after a fracture, and still the function may hardly be disturbed at all. Skiagraphic test has shown that, as a whole, even our best functional results show by no means an ideal union. An unscrupulous patient who secures possession of a skiagraph of his own case which shows considerable deformity, may, although there is no functional disturbance, strongly appeal to a jury on the strength of his skiagraph, if he succeeds in simulating great impairment. On the other hand, there may be but little evidence of bone-injury on the skiagraph, but there may be severe impairment of function on account of the injury to the soft tissues—circulatory, trophic or inflammatory disturbances—which can be represented only faintly, if at all. This shows the necessity of considering all the other clinical symptoms in connection with the skiagraph.

While it is easy, even for a layman, to understand the significance of most skiagraphs, there are, as alluded to, injuries the correct interpretation of which presupposes, besides thorough anatomic knowledge, the greatest care and a vast amount of experience as to the different modes of delineation in various projection-planes. The greatest diagnostic difficulties are offered by the joints. The more complicated a joint is the more complicated the skiagraphs of its various positions will naturally appear. It is especially the elbow-joint and hip-joint which are kept in view. First of all, the interpretation of the displacement caused by supracondylar fracture of the humerus and the deformities resulting from it later on, may tax the power of discrimination considerably.

The older the fracture, the less conspicuous the fracture-line will appear, since it will be more or less overshadowed by the callus. In old fractures the lines can not be represented as such, and it is only in case of union in a displaced position that its features could be guessed. In one of my cases, for instance, a second skiagraph was taken three years afterward, which showed essentially the same features as the first one, which had been taken four weeks after the injury.

In the case of the entire absence of displacement, only a very distinct skiagraph that shows the line clearly. It is natural that in such cases there is no skiagraphic evidence after recovery—that is, in from four to ten weeks, according to the type of the fracture.

If such a case fails to be skiagraphed shortly after the injury, no evidence of the fracture may be subsequently obtained. On the other hand, callus formation may be so abundant that, in spite of the absence of displacement, the fullest evidence of fracture may still be furnished months after. In one of my cases callus formation was so excessive that the attending physician was accused of malpractice, and it was the skiagraph only which convinced the patient that his physician had treated him correctly, the bones being in perfect apposition.

The intra-articular fracture types offer the greatest diagnostic difficulties, inasmuch as the fracture-line is also obscured by the callus formation. If, however, a skiagraph of the other joint is made at the same time, in the same position, and in the same projection, the various delineations of the shadows will be correctly understood and interpreted.

A normal skeleton should always be compared on the skiagraph. It should particularly be remembered that certain pathologic conditions—such as rachitis, for instance—influence the outlines of the bones and may deceptively be supposed to represent a portion of an injury. In such an event the skiagram of the fellow-extremity will set matters right.

In very young children the eminentia capitata appears as if entirely severed from the humerus, although the relations are absolutely normal. The explanation of this very important phenomenon is that the epiphyseal tissues are not sufficiently ossified to produce a shadow on the plate. If these points are not thoroughly considered, a displaced fracture-fragment might be erroneously diagnosticated.

Union between the epiphysis and the diaphysis of the head of the humerus is not perfect before the twentieth year. The lower epiphysis of the humerus consists of four nuclei, which do not ossify before from the eighth to the seventeenth year. The epiphyses of the trochelea, as well as of the olecranon, do not ossify before between the seventh and twelfth years, which explains why an osseous nucleus that is still connected with its neighboring epiphyseal nuclei, and the diaphysis by cartilaginous tissue, appears as an isolated piece of bone which might erroneously be taken for a fragment. The acromio-clavicular junction sometimes shows, in the skiagraph, a hiatus the width of a finger, so that a diastasis of the joint might be assumed. But since our knowledge on this new subject has increased, we know that this apparent diastasis is by no means pathologic, and that there is a normal gap between the osseous ends of the acromion and the acromial end of the clavicle. The upper epiphysis and the diaphysis of the radius unite between the seventeenth and the eighteenth year, and its lower epiphysis and the diaphysis join in the twentieth year. During the early Roentgen era the translucent space above the epiphyseal cartilage in children was erroneously taken for a fracture-line. The head of the femur unites with the diaphysis at the eighteenth or nineteenth year and the lower epiphysis follows after the twentieth year. The upper epiphysis of the tibia unites with the diaphysis in the twentieth or twenty-second year, while the lower tibial epiphysis unites with the diaphysis between the eighteenth and the nineteenth year.

For the thorough interpretation of skiagraphs in children, it is important to know that at birth the diaphyses of the radius, the ulna, the metacarpal bones and the phalanges are ossified, while their epiphyses, as well as the whole carpus, are still cartilaginous. It is not before the seventh year that an osseous nucleus shows at the lower epiphysis of the ulna. Union with the diaphysis sometimes begins with the twelfth year, but, as a rule, not before the fifteenth. Even then a small epiphyseal disc remains, which does not disappear before the seventeenth year in the female, and not before the nineteenth in the male.

The osseous nuclei of the carpus show at different periods, viz., at the os capitatum, at the fourth month; at the hamatum, at the fifth month; while the triquetrum shows its nucleus between the second and the third year, the lunatum between the third and fifth, the naviculare between the fifth and the seventh, the trapezium and trapezoid between the sixth and the seventh, and the os pisiforme between the eleventh and the fifteenth year. After five years the capitatum, hamatum and triquetrum have assumed their regular shapes, while the others, with the exception of the pisiforme, are perfectly developed at the twelfth year.

The osseous nuclei of the epiphyses of the metacarpal bones show at the second year, their synostosis with the diaphysis taking place between the twelfth and the seventeenth year in the females, and at the age of 19 in the male. The epiphyseal nuclei of the phalanges are ossified between the fourth and the fifth year, their synostosis with the diaphysis taking place at the same age as that of the metacarpal bones—from the twelfth to the seventeenth year in the female, and between the sixteenth and the nineteenth in the male.

Regarding the elbow-joint, it must be considered that an osseous nucleus appears at the medial side of the capitulum humeri between the second and third year, another one in the internal epicondyle at the fifth year, a third in the trochlea between the eleventh and the twelfth, and soon afterward a fourth in the external epicondyle. The nucleus of the internal epicondyle unites with the diaphysis between the sixteenth and the twentieth year, but the other three nuclei form a synostosis among themselves at the seventeenth year and then form the uniform osseous epiphysis, which completes its synostosis with the diaphysis at about the twentieth. In the capitulum radii an osseous nucleus appears between the fifth and seventh year, and in the olecranon between the sixth and the eighteenth, both uniting with the diaphysis between the twentieth and the twenty-fifth and between the sixteenth and the twentieth year.

Regarding the knee-joint, it must be considered that the lower femoral epiphysis contains an osseous nucleus at birth, while the nucleus in the tibial epiphysis shows shortly afterward. At the fourth year both these epiphyses have completed their development, but they do not unite with the diaphysis before the fifteenth year. The anatomic text-books say that union takes place between the seventeenth and the twenty-fourth year, but a skiagraphic experience points to an average period of only sixteen. The osseous epiphyseal nucleus of the fibula appears between the second and the fifth year, and unites with the diaphysis between the eighteenth and the twenty-fifth, but the skiagraph dates this period earlier, viz., the fifteenth year. The osseous nucleus in the tibial spine appears between the eighth and the tenth year; the epiphyseal line disappears between it and the diaphysis at the fifteenth.

As to the bones of the foot, it may be said that the lower epiphyses of the tibia and fibula show their osseous nuclei in the first and second years, and unite with the diaphysis between the eighteenth and twenty-fifth; according to skiagraphs, as early as before the eighteenth year. The osseous nucleus of the astragalus and calcaneum appears intra-utero, that of the cuboid shortly before or after birth, that of the cuneiform bones between the first and the fifth year, and that of the os naviculare from the first to the fifth. The osseous nuclei of the metatarsal bones and the phalanges appear from the second to the tenth year, and unite with the diaphyses between the sixteenth and the twenty-second.

In elbow-joint fractures occurring in childhood it is necessary, therefore, to take at least two skiagraphs in different projection-planes and to compare them thoroughly with the normal fellow. In a case of fracture of the femoral head, for instance, the deformity had appeared three times as large as it actually was, on account of inappropriate projection. The degree of shortening of the limb was accordingly overestimated. This shows the necessity of considering the other clinical symptoms and data in connection with the skiagraph.

In fractures of childhood it should also be remembered that the process of ossification is influenced by various affections of the bone, as, for instance, in rickets.

How important the question of projection is becomes evident when we consider that grave errors may sometimes occur even if all the preliminary conditions required for a thorough understanding of the case seem to be fulfilled. This will appear from the following experience, which has probably not been paralleled in the literature of this subject:

A boy 4 years of age, while playing in the street, fell against an iron bar. Being unable to rise again, he was taken up and carried to St. Mark's Hospital, where the first instance of moderate pain was noted, besides the functional disturbance. There was no difference in level nor any other deformity, nor any shortening, nor the typical equinus position. A photograph taken two days after the injury only showed a very moderate and uniform swelling of the leg. Abnormal mobility and crepitus in accordance could be produced only by very rough manipulations.

On the day following the injury two skiagraphs were made, one in the dorsal and the other in the lateral position. To my surprise, the one which had been skiagraphed by a direct irradiation, the center of the platinum disc of the tube being perpendicular to the anterior surface of the leg, did not show the slightest indication of fracture, while the one which represented the leg irradiated from the outer aspect of the tibia showed a marked fracture-line. The fracture presented the typical oblique type in the middle of the tibia, the fracture-line running from anteriorly to above posteriorly, the upper, tapering fragment overlapping the lower end. No sideward displacement having been present, it can be understood why the rays reaching the long axis of the tibia in a vertical direction did not show the fracture-line. A very slight change in position, where the inclination toward the fibular direction amounts to less than 1 millimeter, brought out the fracture distinctly. If I had, as is the custom in general, taken a skiagraph in the antero-posterior direction only, and if the manipulations made during the first examination had been carried out as gently as they properly should be, the fracture might have been overlooked entirely. And if, in view of the local pain and tenderness, the swelling and the functional disturbance, the possibility of a fracture had been seriously considered, the skiagraph might have silenced the uneasy conscience. This experience teaches the necessity of adopting the principle of always taking at least two skiagraphs in two different positions in all cases of suspected fracture.

In taking skiagraphs of foreign bodies it must be considered that their size varies according to the distance from the tube. In oblong bodies great errors as to their extent may be committed. Once I was very much surprised in a case where a needle-fragment had entered the palm of the hand in a perpendicular direction. The plate, while indicating the presence of the needle, distinctly created the impression that the fragment was only about 2 millimeters in length. When extracted it was found to be more than an inch long, the rays having reached the hand in a perpendicular direction so that the circumference of the fragment was reproduced rather than its length. A side view would have cleared up the error at once.

Misinterpretations have also arisen from unavoidable mechanical and chemical effects, causing markings in the photographic plate, the significance of which must be well known to the skiagraphic interpreter. Blemishes may also be produced by spots caused by pus from wounds or by perspiration. In the location of foreign bodies, especially in the skull, many errors were and are still committed. Their avoidance will be considered in a special article.

DISCUSSION ON PAPERS OF DRS. BECK, LEONARD AND DAVIS.*

DR. HOWARD KELLY, Baltimore—Dr. Leonard has presented a remarkable paper, and I feel sure he is doing the finest work of this kind. I have had a chance to test his skill in several cases of calculi. I had supposed until recently that in the female I had occupied this field pretty much for myself by making a diagnosis by slipping into the kidney my wax-tip bougie and finding the scratch marks on it when a stone is present; but recently I have had two cases in which I have been unable to detect the presence of the calculus in the kidney by this method, and in one of these cases Dr. Leonard cleared up the diagnosis. A patient came to me with a renal calculus on the left side, and on catheterizing the kidney I drew off a small amount of urine containing pus, but got no scratch marks. I then catheterized the other side simply to ascertain its condition, and there I unexpectedly got the scratch marks on the bougie. I therefore had a pyonephrosis on one side and calculus on the other. I passed the catheter a second time and got scratch marks again. Dr. Leonard happened to be in Baltimore at that time and took a skiagraph which located a calculus also in the side first tested. I operated first on the worst side and ten days ago on the other side. We must all learn to do this work as Dr. Leonard does it.

To facilitate end-to-end anastomosis of the ureter, I have invented what I call an anastomosis guide, which is shaped like a long thin cartridge with a long handle to use it. I slit the ureter above the division and slip in the guide and bring the ends together and suture them over the guide. The ureter can be anastomosed into the bladder in the same way. It is sometimes necessary to make a long anastomosis of the ureter into the bladder, as shown by some of my cases. I remember a patient in whom a carcinoma obstructed a ureter. I brought the ureter into the bladder by devising a plan which originated some years ago by simply freeing the bladder from its attachments and pulling it up until it reaches the ureter; the bladder was then retained in this extreme displacement by suturing it to the psoas muscle on level with the posterior border of the pelvis. By this means I have secured a perfectly satisfactory anastomosis.

DR. A. D. BEVAN, Chicago—I want to congratulate Dr. Leonard on the very fine work he has been doing. Some of the early work in finding renal calculi by means of the X-ray was done by Dr. McArthur and myself in Chicago. At that time the work was rather crude and the only stones found were those of large size. I am inclined to believe that some of the cases which had stone were not always demonstrated by the X-ray, but recently the technique has been very much improved. I regard it as of the greatest possible value in the diagnosis of stone in the kidney and recall a case where its value in this connection was well demonstrated. The patient was 30 years of age and had all the symptoms of a renal stone. The patient was sent to me by Dr. Billings, of Chicago. Dr. Crane, of Kalamazoo, who has been experimenting somewhat with the X-ray, took much interest in the case and examined it with his own apparatus. He presented three pictures which showed a stone three-fourths of an inch below the last rib and also a very small shadow one-third of an inch in length and not more than one-twelfth of an inch in width below this large stone. To the outer side was seen a kidney-shaped shadow about the size of a bean. At the time of the operation the kidney was pulled out and the vessels were controlled by pressure so that the posterior border of the kidney could be split. The large and small stones were easily found, but there was no evidence of the third stone. Very thorough examination was made, but was unsuccessful. I had the X-ray picture in the operating-room and I measured with my eye as nearly as I could where the third stone was supposed to be. I then took a hypodermic needle and very readily found the second size stone in the kidney itself, which shows the great value of the X-ray. You would be surprised at the small size of the smallest stone, and I am satisfied that this method is the most valuable for diagnostic purposes that we have at our disposal. Where it fails it is largely due to improper handling or wrong interpretation; when you hear a man say it is misleading, be sure that either he does not take good pictures or he does not know how to interpret them. We must learn something about the technique and how to interpret the result gained.

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* Dr. Davis' paper on "Treatment of Injuries to the Ureters" appeared in last issue; Dr. Leonard's paper on "Diagnosis of Calculus Disease of Kidney, Ureters and Bladder by Roentgen Method" appeared elsewhere.

Dr. J. Wesley Bovee, Washington, D. C.—Until recently we had very little evidence of the value of the X-ray in the diagnosis of biliary and renal calculi and I am very glad to learn that the work can be done so satisfactorily at the present time.

I was very much pleased with the way Dr. Davis presented the subject of ureteral injuries, and I have no doubt that the best method of uniting a severed ureter is by uretero-ureteral anastomosis. The end-to-end method is done in nearly all cases transversely, and, in one of my own, obliquely. The experiments with this method on dogs has not been carried out on man in but the one case. The lateral anastomosis by Dr. Weller Van Hook is a good method, and recently another method of lateral anastomosis similar to the way it is performed in the intestines has been brought forward in Italy. The operation by different methods has been done 21 times on man, and an unfavorable result followed in but one case. Anastomosis with the bladder is a good operation and has been done something like 70 times. The point on which I do not agree is concerning the failure of the rectal or colon implantation, which has been done over 80 times and in a large number of cases has been successful. If we remember the work done by some of the foreign surgeons and get their statistics we shall find that they are successfully implanting the ureters into the bowel. The implantation of the severed ends of the ureter, however, has not been very satisfactory here, if we may judge from experiments on dogs, but the dangers have been greatly overdrawn. There has not been a case reported of marked stenosis in uretero-ureteral anastomosis, except one where tuberculosis was present; this may have had something to do with it, and the operation was not necessarily faulty.

Dr. George Goodhue, Dayton, Ohio—It was my experience six years ago to have a patient who complained of pain over one side in the kidney region, but not on the other. A surgeon of large experience was called in to operate on this man, and removed the kidney from the side which gave him the trouble, although it was very slightly, if at all, diseased. The other kidney I removed at the autopsy several months later, and found it packed with stone. I simply mention this to show what the X-ray might have done had we had it at that time. Only an hour or two before I left home I had a patient, who gave every symptom of renal calculus, subjected to the X-ray, but I came away too soon to learn the results. I would like to ask Dr. Leonard to state what part of the surface should be exposed to get the best results, i. e., whether the posterior, anterior or lateral. Our work is being done by a man who is doing excellently in this line. Later I shall report a case of successful anastomosis of ureter by implanting the upper section into the lower through an opening made into the side, as recommended by Kelly.

Dr. Randolph Winslow, Baltimore—Four years ago, while doing a hysterectomy, I was unfortunate enough to cut a ureter. I was aware of the work that had been done by Van Hook and Kelly, and I made an incision into the ureter, slit it up, invaginated the upper end into the lower, closed the lower end over the upper, and the woman recovered. The operation, so far as I can see, does not differ from the one the reader of the paper has presented, except that I used silk instead of catgut. The woman has remained well for three years, and I believe is still so. All of these operations are merely modifications of the original method of Van Hook, and to him is due the credit for whatever success has been accomplished. The ureter is ordinarily described as terminating in the pelvis of the kidney, which, passing through the sinus of the kidney, forms a large dilatation within the substance of this organ. This description is not correct in most cases. The pelvis of the kidney is usually quite a small structure and may be either fusiform or triangular, or more or less quadrilateral in shape. From the pelvis issues several long and narrow tubes, usually at least four in number, which terminate in calices after passing a considerable distance, perhaps an inch or more in length. You may have a stone in one of these calices. You may pass a ureteral catheter, which will go into the pelvis or into one of the calices, but not in the one where the stone is impacted. A stone developed in the lower calices can not be reached in this manner.

Dr. Carl Beck, New York City—It seems to me to be a deplorable fact that the great importance of the X-ray has not been realized by the profession, and I only wish that more such beautiful and convincing explanations could be brought forward. I agree with every point but one, and that is that the skiagraph will always show whether a renal calculus is present or not. I think this is a dangerous statement. Although a man's technique may be splendid, yet he may commit some errors. I would not make a diagnosis on a negative skiagraphic report regarding the presence of renal calculi. While a positive skiagraph is proof enough for the surgeon, a negative skiagraph will not convince me there is not a stone. In a doubtful case at least two short and long exposures should be made, and if possible, with different tubes. It has occurred to me that renal calculi, if they be elliptical in shape, may be confounded with biliary calculi, particularly if the body is irradiated in the oblique direction, so that the calculus appears near the spinal column.

Dr. L. L. McArthur, Chicago—I agree with the last speaker, Dr. Beck, that not all calculi may be expected to be found with the skiagraph. I believe Dr. Leonard, in his paper, failed to emphasize sufficiently the fact that the chemical composition of the calculus determines the intensity of the shadow. A uric-acid calculus will give a very slight shadow. I made some investigations before attempting to photograph a stone in the kidney, and on taking a group of calculi of varying types I found that a pure uric-acid calculus gave a very feeble shadow. Since that time I have cut down and found uric-acid calculi which were not demonstrable by the X-ray in the hands of our expert in its use, Mr. Fuchs.

Dr. J. E. Summers, Jr., Omaha—Dr. Davis' technique is practically identical with that adopted years ago by Joseph Price, and is, I believe, as simple as any, being particularly advantageous when there has been a loss of substance and under such circumstances has an advantage over Van Hook's method. One must remember when operating on the ureter that it may have a fellow on the same side and that these ureters may come from a horse-shoe (more or less fused) kidney. Those who have examined the pathological exhibit will remember a specimen of double ureter on both sides, there being two separate kidneys. Recently I did a left-sided nephrectomy for tuberculosis; the patient was a female, aged 2½ years. There were two ureters on this side and a large kidney. Fearing the possibility of a single kidney, I button-holed the other side in order to examine for the presence and condition of the right kidney. The kidney was removed together with the ureters, the lower one, which was healthy, was removed only in part, the upper, which was tubercular, was removed to below the pelvic brain. The child recovered nicely.

Dr. F. B. Carpenter, San Francisco—Seeing Dr. Kelly requested that all cases like his own should be reported, I will report one to add to the list. I brought the upper end of the ureter down to meet the lower, and consequently tied off the lower, destroying the mucosa that remained. I then made a large incision in the posterior wall of the bladder and passed three catgut sutures from within out to the upper end of the ureter. I brought the ureter firmly down from the lower angle of the incision into the bladder. When this was once secured I closed the remaining portion of the long incision into the bladder, and the patient made a good recovery, without any bad symptoms. I would call attention to an idea I derived at the time of the operation. It occurred to me that hereafter I could make use of Murphy's idea of a button in making anastomoses between the lower end of the ureter and the bladder. One important thing in this connection was that when the button came away it must necessarily fall into the bladder and could then be brought out through the urethra. The button will probably be slow, as our experience with buttons passing into the intestine has been. Phosphatic deposits may accumulate, which will cause some delay.

Dr. C. L. Leonard—I purposely refrain from speaking of the technique of skiagraphy, as I have just published a full description in the *Annals of Surgery*, and reported 59 cases in which I had found 12 calculi. Of those calculi a chemical analysis has been made, which shows that they consist of all the varieties except cholesterin. Uric-acid crystals, carbonates and phosphates are all represented. The reason why these calculi may now be detected by the X-ray, but could not at first, is due to the different quality of the X-ray I use. If you use a tube that has an equivalent resistance of 2 inches you will penetrate a uric-acid stone, but if, on the other hand, you use a tube which has a resistance of 1½ inches and will stay at that point, you will not penetrate the uric-acid stones. I found a calculus that weighed nine-tenths of a grain, while another of pure uric acid was removed from the ureter and weighed two and three-quarter grains. I had hoped to be able to show you some slides demonstrating these calculi. One of those slides shows 7 calculi that have been taken with different qualities of the X-ray, but with all other conditions equal. It shows that vacuum tubes will penetrate uric-acid stones, while the low vacuum gives opaque shadows, and it is this improvement in the technique that has made it possible for me to develop the method which I now use and which is so essential. I use a light which will not penetrate the less opaque calculi. If you get in the negative a shadow of the lumbar muscles you may be absolutely sure that no calculi exist. The only case of error in either positive or negative diagnosis was made in a case examined for Dr. W. W. Keen. It was an error in technique and served to show that the method *per se* was not at fault. The plate had not been placed sufficiently high, so that a calculus in the upper pole of the left kidney escaped detection. This error only served to strengthen my belief in the correctness of the method and helped to improve my technique. A second case for Dr. Keen showed that I was amply justified in my faith in the method, even to the extent of opposing his diagnosis. The symptoms were sufficiently severe to justify operative intervention, but the result of the operation coincided with the negative diagnosis. It is the method which I believe is absolute, the errors are entirely the result of faulty technique in applying it.

Dr. B. B. Davis—I have certainly succeeded in getting some more cases reported, if my paper has accomplished nothing else, and this will make these cases of record. In practically all instances where there has been a ureter severed at the time of operation the patient is exhausted and the surgeon is tired before the operation is completed, and consequently we want to have a method of repair which will be as simple as possible. The quicker it can be done the better will it be for all concerned. Kelly will do his operation very quickly, of course, but for the average operator I think it will take a good deal longer time than the method I have described. Although I do not profess to be a rapid operator, I am sure it did not take me more than five minutes to finish up the anastomosis. Catgut soon dissolves, so that there is no danger from the suture. As to the button which has been shown, I can not but think that with such a small lumen as it must necessarily have, it is almost sure to be filled by the phosphates before it separates.

WALLED OFF.*

JOHN B. DEAVER, M.D.
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"Walled off" is an expression so often heard in connection with cases of appendicitis which have gone on to pus formation, that I have selected it for the subject of dicsussion. When I hear a physician boast that his case has advanced to this stage and is ripe for operation, I often wonder how it is possible for him to have been unaware of the dangers to which the patient has been subjected and feel sorry for the physician's or surgeon's lack of knowledge of the living pathology of this vicious and deceptive disease that he has allowed to stealthily advance to that point where he believes he has every reason to congratulate himself. The most charitable view one can come to is, that he is familiar with operation under this one circumstance only.

In order to make clear the object of this paper, let me draw the comparison between an operation for walled-off pus, and operation in the absence of pus, or before the pus has become walled off.

Before taking up the arguments in favor of early operation and against late interference, let me impress on you that the mere evacuation of an appendicular abscess, drainage and subsequent healing of the abscess does not insure the patient immunity from a subsequent attack of appendicitis. A recurrent attack is much more likely to follow a partial operation—where the appendix is not removed—on account of the retention of an appendix which is damaged, therefore more vulnerable, and a fruitful source for subsequent attacks. That the appendix, in the case of a walled-off abscess, is frequently discharged as a slough, I am prepared to deny. The surgeon or the physician deceives himself, the patient, and the patient's friends when he makes this statement. I have repeatedly operated on cases in which a walled-off abscess had been drained, and in not one have I failed to find the appendix. At this time I may say that I have never met with a case where the appendix was normally absent.

Walling off of an abscess is nature's means of protecting the general peritoneal cavity. It has been stated that nature should be allowed to pursue its course unhampered by human skill or interference. The fact must not to be lost sight of, that nature in dealing with pathological conditions does not work with the same immutability that it does with other normal laws, and therefore there is always to be considered the probability that the lauded and longed-for walled-off condition may fail to materialize, thus leaving the patient far worse off in the second state than he was in the first. The fact that a sufficient number of cases which constitute a large series is warrant enough for a decided opinion enables me to say without reservation or fear of successful contradiction few cases of abscess are completely walled off.

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* Read before the Profession of Springfield, Mass., at the Mercy Hospital.

What is to be gained by waiting until the abscess is walled off? Shall we allow the unfortunate patient to perish, or have one or more of the many serious complications that go hand in hand with abscess in the peri*toneum?*

To recover from an operation for a walled-off appendicular abscess, means, to say nothing of the many risks to life, an indefinite convalescence. Abscess formation in appendicitis is a preventable complication and certainly a desirable one to eliminate from the treatment of the disease. I fully realize the difficulty experienced by physicians in some instances to convince the patient and their friends that early operation is the course of wisdom. This is the exception and not the rule, as the laity more often raise the question of operation when they are told that the case is one of appendicitis.

What can we expect when many of our prominent surgeons are still crying down too-early operation. Against the latter dictum, just criticism is in order. It is my experience and yours as well, I am sure, that the surgeon and physician who has had the largest experience with this disease and particularly those who have studied the living pathology, that is having seen in the living belly-cavity this vicious inflammation when in full force, are those who advocate, yes, pray for early interference.

When I hear the surgeon or physician say, "let us wait twenty-four hours longer," I am sure their experience has been limited and therefore they are not qualified to give an authoritative opinion on this important question. Many lives have been sacrificed by procrastination, while I dare say not one, except through faulty technique, perhaps, has been lost by too-early interference. Great is the number of surgeons and physicians who have regretted operating too late in appendicitis, while I venture to declare that if this country were raked with a fine-toothed comb not one could be found who regrets having operated too early. This is the doctrine to inculcate into the minds of our medical friends if we would reduce the mortality of this disease and do away with complications and sequelæ.

It has been said that not to be able to discriminate between cases of appendicitis which require immediate operation and those in which operation can be deferred for one or two days, or until the attack has subsided, is unscientific. In answer to this I beg to say that this kind of science which is killing many human beings daily should be thrown to the dogs. I challenge any one to interpret to a certainty the pathological condition in a case of an acute inflammation of the appendix, unless the opportunity is given to see inside the belly-cavity. To be plain, this sort of pretention is disgusting to say the least. I tell the students attending the clinic at the German Hospital that I know but two things in a case of appendicitis, namely, that the disease is an inflammation of the appendix and that the appendix should come out.

To foretell the extent of the diseased condition on the inside of the abdomen by an external examination I am unable to do. Perhaps my colleagues who have seen only little of this class of operations can, and if so, they are wiser than I am.

Statements such as the following, that "I have had two hundred cases of appendicitis and never lost a patient, nor have I had to have one operated on," is false beyond question. Many of the gentlemen who have never lost a patient have waited until the eleventh hour and then sent for the surgeon, who very foolishly operates, is credited with the death, and relieves the attending physician of counting this against his record.

There are five forms in which appendicular abscess are met with, depending on the locality in which the collection is situated. I will discuss them one at a time and try to convince you of the futility of depending on nature to control intraperitoneal suppuration and its effects, by the process of walling off.

1. The most common in my experience is when the collection is post-cecal, or post-colic, and between the layers of the mesocolon, it is a walled-off collection, but not walled off so as to avoid infection of the peritoneum in its evacuation. The parietal peritoneum does not enter as a part of the abscess wall, and therefore in opening the abdomen to get at the collection the general peritoneal cavity must necessarily be opened and unless gauze be properly distributed so as to make up for nature's deficiency the general peritoneal cavity will be endangered. It may sometimes be possible to open the collection through the loin space, but this means an element of uncertainty as well as simply evacuation, leaving the appendix. I think it is inadvisable, and to a degree dangerous. If any class of surgery should be complete it is appendicular surgery.

2. The second variety of walled-off pus is where the collection is found directly beneath the parietal peritoneum and its limiting wall is formed by the cecum, coils of small intestines, the omentum, the appendix, the parietal peritoneum and masses of lymph binding these together. This is the variety of walled abscess which the advocates of the "let alone" theory hope to secure by their masterly inactivity. This variety occurs second in order of frequency of the walled-off type of appendicitis. In this class of cases it is a most common occurrence to find that the abscess is in communication with, and includes, the pelvis. To complete the operation in this type we must protect the peritoneal cavity from infection with protecting gauze, evacuate the collection, remove the appendix, introduce drainage, both tubular and gauze.

3. In the third variety of walled-off abscess, the collection is wholly confined to the pelvis and shut off from the general peritoneal cavity. The pus can not be evacuated without endangering the peritoneal cavity unless gauze packing is extensively used to protect it. The appendix will always be found to be located in the pelvis and therefore its removal must be accomplished before completing the operation.

The evacuation of a pelvic collection of pus, the result of an appendicular inflammation, by vaginal or rectal puncture is to be heartily condemned for several reasons; that it is contrary to sound surgical principles; that it is attended by certain risks; that it does not remove the source of disease; and, that it is at least only a very dangerous and temporary makeshift. By attacking the pelvic collection of pus through the abdominal wall, the appendix can be removed and the pus cavity properly treated, thus favoring healing by the process of granulation.

4. The fourth variety of walled-off pus is found located near the median line of the abdomen and to the inner side of the cecum. The retaining wall is composed of cecum, appendix, small intestine, mesentery, omentum, and possibly the sigmoid flexure of the colon. In order to operate with more safety to the patient in this variety of abscess it may be necessary to make a second incision to the median side of the incision which opens the pus cavity, so as to protect the peritoneum with

gauze packing in order to complete the operation by removing the appendix.

5. The fifth variety of appendicular pus is found free in the peritoneal cavity. In this variety there has been no attempt on the part of nature to confine the pus. This, the most unfortunate variety, especially if the patient is not operated on within the first twelve hours, in that the patient's chances are reduced almost to nil. The attempt to treat this variety of abscess sucessfully will depend on the thoroughness of the technicpue, which will sometimes secure a favorable outcome to the case.

The writer's successful cases in this variety of abscess have been where he has operated within the first six or twelve hours of the disease. The following case demonstrates the correctness of my position in appendicular surgery. I am very sure that had the operation been deferred in the case I report until the serofibrinous exudate had become pus, or until the appendix had perforated, this young physician's life would have been lost.

Patient was an interne of the German Hospital, operated on for acute appendicitis Oct. 1, 1900. History of previous attack was negative, with the exception of possibly an attack of the mildest character two years ago. On the evening of Sept. 30, 1900, after an especially hearty dinner, the patient had a little abdominal pain, which was general and cramp-like, but not severe. He took a dose of salts. The general pain complained of at first became better after salts had operated, but patient was left with some pain, which was referred to the right iliac fossa. The following morning, Oct. 1, the Doctor was on duty attending to his daily duties. About 12 a.m., Oct. 1, pain became so much worse that the Doctor went to bed. I saw him at 1 p.m., Oct. 1, when the diagnosis of acute appendicitis had been made by my house surgeons, Drs. Curry and Moore. I confirmed the diagnosis and operated immediately, finding the abdominal cavity filled with serofibrinous exudate, and appendix distended with pus. Recovery was uninterrupted; in fact, it was unusually smooth. Operation was made through a 1½-inch incision through the right rectus muscle.

Thus far we have dealt with cases which have advanced to pus formation. I shall now take up pus in the peritoneal cavity, whether free or confined, and endeavor to prove to you that it is far better to anticipate pus than to have to combat it.

Let us sum up the evidence of the possible results of appendicular pus, and in order to deal with it properly, divide it into two headings, general sepsis and local sepsis. Under the first, general sepsis, we must include septicemia, pyemia, pyelophlebitis, hepatitis, abscess of the liver, septic pneumonia, septic nephritis, etc. Under the latter heading we find adhesions, softened and gangrenous bowel and omentum, perforation of the bowel, bladder or ureter, fecal fistula, prolonged convalescence, ventral hernia, and subsequent obstruction of the bowel, either from bands or from the contraction of the abscess wall.

In drawing comparisons between the mortality in the presence of pus and operation done prior to pus formation, we know that operation in the presence of pus gives a percentage of 10 to 18 deaths per 100, while in the presuppurative stage the mortality is .5 per cent. This statement should make further argument unnecessary.

It is likewise proper that we consider the length of time necessary to establish convalescence under the two conditions. The recovery in cases operated on in the presence of pus is always problematical and the convalescence protracted, lasting anywhere from four to six weeks in the most favorable cases and in many instances to as many months, while recovery in those cases where pus is absent takes but ten to twelve days.

In considering some of the results of pus formation from appendicitis, fecal fistula is one of the most unfortunate. The most common cause for fecal fistula is pressure necrosis, due either to an extensive purulent collection, or from the very high grade of infection. By very early operation a fistula bue to either of these causes can be prevented. One of the common causes for a simple fistula is an unhealed abscess cavity. It is unnecessary for me to add that a fecal fistula too often is a most distressing sequel to appendicitis and difficult at times to cure, even with operative interference.

It has been my experience that walled-off abscess is followed by ventral hernia, the operation for the relief of which is attended by greater risk than is the original operation, and too often with less certainty of a permanently good result. Chronic sepsis is the natural result of a peritoneal abscess; this of itself is attended by a mortality.

There is no choice as to the time of operation in appendicitis; theoretically, there may be arguments advanced to refute this statement, but it is the results which impress us and from which we must draw the rules of guidance in matters which involve life and death. It has been claimed that appendicular pus becomes less virulent the longer it remains in the peritoneal cavity, and that in time it will become sterile but what of the poor unfortunate patient while this intraperitoneal sterilization of the pus is taking place?

It has been said that man can become accustomed to anything, even hanging, and it seems, if we accept the above claim, that he can even become used to having a collection of pus in his peritoneum until it becomes sterile, but that delay on the part of the patient, or by the consent of the physician, is good and sound treatment, I deny with all the strength I possess.

Let me insist that you have your cases of appendicitis operated on, yes, immediately after the onset of the initial pain. Do not be influenced by the pernicious doctrine that you can wait for further developments, as the latter teaching is at the cost of many precious human lives.

When I hear and read remarks like this, when in cases of appendicitis the symptoms are progressing unfavorably after twenty-four hours have elapsed, operate and operate immediately. I have unquestionable evidence of one of the reasons at least why the mortality in this disease is so high. Why should delay for twenty-four hours in the presence of unfavorable symptoms be entertained? My answer would be want of confidence on the part of one so advising.

It has been said, and well said, that he who stops to deliberate is lost; this is apropos of this discussion, for the physician or surgeon who stops to deliberate, that is, waits twenty-four hours, to operate in the presence of unfavorable symptoms, is not only lost in the sense that he is lost as to the knowledge of the living pathology of the disease, but that many more patients will be lost if this dangerous teaching is practiced.

In concluding my remarks on this subject I shall in brief review the salient points with especial reference to impressing them on your thoughts and ask your unbiased discussion in reviewing the facts:

1. Pus is an avoidable complication in the treatment of appendicitis.
2. The patient's welfare is best preserved by avoiding any of the complications incident to pus formation.

say without reservation or fear of successful contradiction few cases of abscess are completely walled off.

What is to be gained by waiting until the abscess is walled off? Shall we allow the unfortunate patient to perish, or have one or more of the many serious complications that go hand in hand with abscess in the peritoneum?

To recover from an operation for a walled-off appendicular abscess, means, to say nothing of the many risks to life, an indefinite convalescence. Abscess formation in appendicitis is a preventable complication and certainly a desirable one to eliminate from the treatment of the disease. I fully realize the difficulty experienced by physicians in some instances to convince the patient and their friends that early operation is the course of wisdom. This is the exception and not the rule, as the laity more often raise the question of operation when they are told that the case is one of appendicitis.

What can we expect when many of our prominent surgeons are still crying down too-early operation. Against the latter dictum, just criticism is in order. It is my experience and yours as well, I am sure, that the surgeon and physician who has had the largest experience with this disease and particularly those who have studied the living pathology, that is having seen in the living belly-cavity this vicious inflammation when in full force, are those who advocate, yes, pray for early interference.

When I hear the surgeon or physician say, "let us wait twenty-four hours longer," I am sure their experience has been limited and therefore they are not qualified to give an authoritative opinion on this important question. Many lives have been sacrificed by procrastination, while I dare say not one, except through faulty technique, perhaps, has been lost by too-early interference. Great is the number of surgeons and physicians who have regretted operating too late in appendicitis, while I venture to declare that if this country were raked with a fine-toothed comb not one could be found who regrets having operated too early. This is the doctrine to inculcate into the minds of our medical friends if we would reduce the mortality of this disease and do away with complications and sequelæ.

It has been said that not to be able to discriminate between cases of appendicitis which require immediate operation and those in which operation can be deferred for one or two days, or until the attack has subsided, is unscientific. In answer to this I beg to say that this kind of science which is killing many human beings daily should be thrown to the dogs. I challenge any one to interpret to a certainty the pathological condition in a case of an acute inflammation of the appendix, unless the opportunity is given to see inside the belly-cavity. To be plain, this sort of pretention is disgusting to say the least. I tell the students attending the clinic at the German Hospital that I know but two things in a case of appendicitis, namely, that the disease is an inflammation of the appendix and that the appendix should come out.

To foretell the extent of the diseased condition on the inside of the abdomen by an external examination I am unable to do. Perhaps my colleagues who have seen only little of this class of operations can, and if so, they are wiser than I am.

Statements such as the following, that "I have had two hundred cases of appendicitis and never lost a patient, nor have I had to have one operated on," is false beyond question. Many of the gentlemen who have never lost a patient have waited until the eleventh hour and then sent for the surgeon, who very foolishly operates, is credited with the death, and relieves the attending physician of counting this against his record.

There are five forms in which appendicular abscess are met with, depending on the locality in which the collection is situated. I will discuss them one at a time and try to convince you of the futility of depending on nature to control intraperitoneal suppuration and its effects, by the process of walling off.

1. The most common in my experience is when the collection is post-cecal, or post-colic, and between the layers of the mesocolon, it is a walled-off collection, but not walled off so as to avoid infection of the peritoneum in its evacuation. The parietal peritoneum does not enter as a part of the abscess wall, and therefore in opening the abdomen to get at the collection the general peritoneal cavity must necessarily be opened and unless gauze be properly distributed so as to make up for nature's deficiency the general peritoneal cavity will be endangered. It may sometimes be possible to open the collection through the loin space, but this means an element of uncertainty as well as simply evacuation, leaving the appendix. I think it is inadvisable, and to a degree dangerous. If any class of surgery should be complete it is appendicular surgery.

2. The second variety of walled-off pus is where the collection is found directly beneath the parietal peritoneum and its limiting wall is formed by the cecum, coils of small intestines, the omentum, the appendix, the parietal peritoneum and masses of lymph binding these together. This is the variety of walled abscess which the advocates of the "let alone" theory hope to secure by their masterly inactivity. This variety occurs second in order of frequency of the walled-off type of appendicitis. In this class of cases it is a most common occurrence to find that the abscess is in communication with, and includes, the pelvis. To complete the operation in this type we must protect the peritoneal cavity from infection with protecting gauze, evacuate the collection, remove the appendix, introduce drainage, both tubular and gauze.

3. In the third variety of walled-off abscess, the collection is wholly confined to the pelvis and shut off from the general peritoneal cavity. The pus can not be evacuated without endangering the peritoneal cavity unless gauze packing is extensively used to protect it. The appendix will always be found to be located in the pelvis and therefore its removal must be accomplished before completing the operation.

The evacuation of a pelvic collection of pus, the result of an appendicular inflammation, by vaginal or rectal puncture is to be heartily condemned for several reasons; that it is contrary to sound surgical principles; that it is attended by certain risks; that it does not remove the source of disease; and, that it is at least only a very dangerous and temporary makeshift. By attacking the pelvic collection of pus through the abdominal wall, the appendix can be removed and the pus cavity properly treated, thus favoring healing by the process of granulation.

4. The fourth variety of walled-off pus is found located near the median line of the abdomen and to the inner side of the cecum. The retaining wall is composed of cecum, appendix, small intestine, mesentery, omentum, and possibly the sigmoid flexure of the colon. In order to operate with more safety to the patient in this variety of abscess it may be necessary to make a second incision to the median side of the incision which opens the pus cavity, so as to protect the peritoneum with

gauze packing in order to complete the operation by removing the appendix.

5. The fifth variety of appendicular pus is found free in the peritoneal cavity. In this variety there has been no attempt on the part of nature to confine the pus. This, the most unfortunate variety, especially if the patient is not operated on within the first twelve hours, in that the patient's chances are reduced almost to nil. The attempt to treat this variety of abscess sucessfully will depend on the thoroughness of the technicpue, which will sometimes secure a favorable outcome to the case.

The writer's successful cases in this variety of abscess have been where he has operated within the first six or twelve hours of the disease. The following case demonstrates the correctness of my position in appendicular surgery. I am very sure that had the operation been deferred in the case I report until the serofibrinous exudate had become pus, or until the appendix had perforated, this young physician's life would have been lost.

Patient was an interne of the German Hospital, operated on for acute appendicitis Oct. 1, 1900. History of previous attack was negative, with the exception of possibly an attack of the mildest character two years ago. On the evening of Sept. 30, 1900, after an especially hearty dinner, the patient had a little abdominal pain, which was general and cramp-like, but not severe. He took a dose of salts. The general pain complained of at first became better after salts had operated, but patient was left with some pain, which was referred to the right iliac fossa. The following morning, Oct. 1, the Doctor was on duty attending to his daily duties. About 12 a.m., Oct. 1, pain became so much worse that the Doctor went to bed. I saw him at 1 p.m., Oct. 1, when the diagnosis of acute appendicitis had been made by my house surgeons, Drs. Curry and Moore. I confirmed the diagnosis and operated immediately, finding the abdominal cavity filled with serofibrinous exudate, and appendix distended with pus. Recovery was uninterrupted; in fact, it was unusually smooth. Operation was made through a 1½-inch incision through the right rectus muscle.

Thus far we have dealt with cases which have advanced to pus formation. I shall now take up pus in the peritoneal cavity, whether free or confined, and endeavor to prove to you that it is far better to anticipate pus than to have to combat it.

Let us sum up the evidence of the possible results of appendicular pus, and in order to deal with it properly, divide it into two headings, general sepsis and local sepsis. Under the first, general sepsis, we must include septicemia, pyemia, pyelophlebitis, hepatitis, abscess of the liver, septic pneumonia, septic nephritis, etc. Under the latter heading we find adhesions, softened and gangrenous bowel and omentum, perforation of the bowel, bladder or ureter, fecal fistula, prolonged convalescence, ventral hernia, and subsequent obstruction of the bowel, either from bands or from the contraction of the abscess wall.

In drawing comparisons between the mortality in the presence of pus and operation done prior to pus formation, we know that operation in the presence of pus gives a percentage of 10 to 18 deaths per 100, while in the presuppurative stage the mortality is .5 per cent. This statement should make further argument unnecessary.

It is likewise proper that we consider the length of time necessary to establish convalescence under the two conditions. The recovery in cases operated on in the presence of pus is always problematical and the convalescence protracted, lasting anywhere from four to six weeks in the most favorable cases and in many instances to as many months, while recovery in those cases where pus is absent takes but ten to twelve days.

In considering some of the results of pus formation from appendicitis, fecal fistula is one of the most unfortunate. The most common cause for fecal fistula is pressure necrosis, due either to an extensive purulent collection, or from the very high grade of infection. By very early operation a fistula bue to either of these causes can be prevented. One of the common causes for a simple fistula is an unhealed abscess cavity. It is unnecessary for me to add that a fecal fistula too often is a most distressing sequel to appendicitis and difficult at times to cure, even with operative interference.

It has been my experience that walled-off abscess is followed by ventral hernia, the operation for the relief of which is attended by greater risk than is the original operation, and too often with less certainty of a permanently good result. Chronic sepsis is the natural result of a peritoneal abscess; this of itself is attended by a mortality.

There is no choice as to the time of operation in appendicitis; theoretically, there may be arguments advanced to refute this statement, but it is the results which impress us and from which we must draw the rules of guidance in matters which involve life and death. It has been claimed that appendicular pus becomes less virulent the longer it remains in the peritoneal cavity, and that in time it will become sterile but what of the poor unfortunate patient while this intraperitoneal sterilization of the pus is taking place?

It has been said that man can become accustomed to anything, even hanging, and it seems, if we accept the above claim, that he can even become used to having a collection of pus in his peritoneum until it becomes sterile, but that delay on the part of the patient, or by the consent of the physician, is good and sound treatment, I deny with all the strength I possess.

Let me insist that you have your cases of appendicitis operated on, yes, immediately after the onset of the initial pain. Do not be influenced by the pernicious doctrine that you can wait for further developments, as the latter teaching is at the cost of many precious human lives.

When I hear and read remarks like this, when in cases of appendicitis the symptoms are progressing unfavorably after twenty-four hours have elapsed, operate and operate immediately. I have unquestionable evidence of one of the reasons at least why the mortality in this disease is so high. Why should delay for twenty-four hours in the presence of unfavorable symptoms be entertained? My answer would be want of confidence on the part of one so advising.

It has been said, and well said, that he who stops to deliberate is lost; this is apropos of this discussion, for the physician or surgeon who stops to deliberate, that is, waits twenty-four hours, to operate in the presence of unfavorable symptoms, is not only lost in the sense that he is lost as to the knowledge of the living pathology of the disease, but that many more patients will be lost if this dangerous teaching is practiced.

In concluding my remarks on this subject I shall in brief review the salient points with especial reference to impressi[illegible]em on your thoughts and ask your un- [illegible]: in reviewing the facts:

1. Pus is an avoidable complication in the treatment of appendicitis.

2. The patient's welfare is best preserved by avoiding any of the complications incident to pus formation.

3. The walled-off abscess is not the blessing to be sought, but rather an evil to be avoided by prompt surgical interference as soon as the symptoms of appendicitis manifest themselves.
4. Operation on cases of walled-off pus imperils the patient's chances for recovery, on account of liability to infection of the peritoneal cavity.
5. Fecal fistula as a result of a walled-off appendicular abscess is an unavoidable sequel to appendicitis and should not be permitted to occur.
6. The latter statement is true of all complications and sequelæ of appendicitis due to pus formation.

THE ARMY SURGEON IN THE PHILIPPINES.

WILLIAM J. LYSTER, M.D.
ACTING ASSISTANT-SURGEON, U. S. A.
MANILA, P. I.

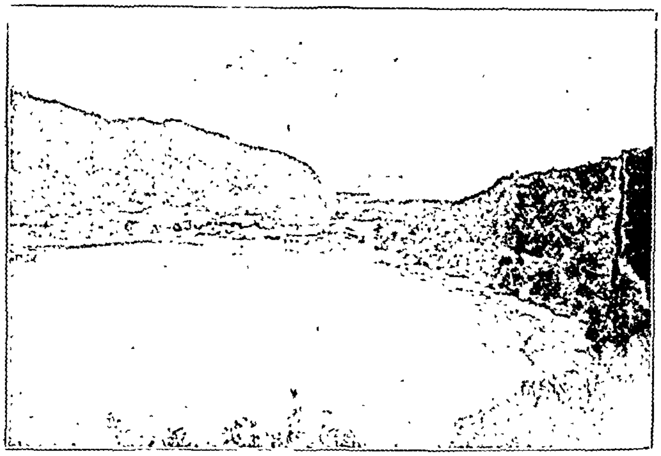
In a number of islands, stretched out through a thousand miles of the greatest of oceans, is the United States Army of occupation in the Philippines, holding positions in the interior of islands as large as the State of Ohio, many of whose inhabitants had never before seen the faces of white men. With the troops combating diseases of new type, among barbarous communities ignorant of all sanitary precautions, is the army surgeon, attempting to carry with him the principles and appliances of modern science necessary to the preservation of life, in a climate that is strange to him and which impels a study of its peculiarities at the same time that it increases his work. The medicines, instruments and foods necessary for the victims of wounds and disease in these remote places must be carried, with difficulties of which even the quartermaster's department is scarcely competent to judge. Troops are sometimes expected to live on the country; campaigns have been made that way. But no medical officer can deliberately leave to the "fortunes of war" the chance of finding medicines and instruments in the enemy's country. We can eat the barbarian's or even the savage's food, but he has no medicines.

Yet, as a rule, our troops have been provided with abundance of medicines, instruments, sterilizing apparatus, dressings, foods for the invalids, shelter and nursing. But it has not been done without constant planning, forethought, ability to adapt, strenuous endeavor, sacrifice and loyalty to duty. With moving bodies of troops or expeditionary forces, as they have been called in this campaign, the handling of the sick is naturally a more difficult problem than in even the smallest and most remote posts. Schwan's Expeditionary Force in its movements offers a typical illustration of the medical corps in action, and some remarks concerning it will best illustrate its work.

This force consisted of about 27,000 men, and moved south from Manila, Bacoor and Ismus, through Cavité province to the province of Tayabas around Lake Taal, occupying important points as it proceeded and part of it appearing on the Laguna da Bahia. Medical supplies were sent to points on Manila Bay, through which or from which the forces started, and were then transported under the supervision of medical officers in ambulances and wagons. As the region traversed became more rough and mountainous, both supplies and the sick and wounded were conveyed by Chinese coolies. These bearers were invaluable in the country impassable for the ambulance. They were economical and reliable, being useful immediately on the firing line. As the expedition debouched on the southern seacoast it was met by a hospital ship, which relieved the army of its sick and furnished fresh supplies. Thus a fresh start was practically possible. When the expedition, recurving, reached the shore of Laguna da Bahia it was met by another hospital ship, a light-draft boat, that repeated the work of the first ship.

Thus the care for the sick was most ably performed, and the column, relieved of the burden of its wounded, was rendered more mobile, a military advantage of first importance. This was also done by leaving the sick and wounded with the troops garrisoning the points held as the army proceeded. But it did not end with leaving them. Post hospitals arose as rapidly as the smoke from the camp fire; equipments and medicines were at hand by the forethought of dividing the supplies into small outfits, and relief and rest were at once afforded to those needing it. The seriously ill were rapidly sent from emergency to regimental hospitals, or to hospitals placed at points advantageous for the transportation of men and supplies.

The base hospitals, which were only converted buildings, usually of a public or semi-public character, answered well and were more fully equipped than the smaller hospitals. They have on an average a capacity of about fifty beds, and are at such points along the arteries of transportation, sail or water, that fresh supplies can be readily and frequently furnished. Here the treating of patients is necessarily an easier problem and those requiring special foods obtain them. These base hospitals are in close touch with Manila, the metropolis of the islands and the headquarters for Luzon, the largest island.



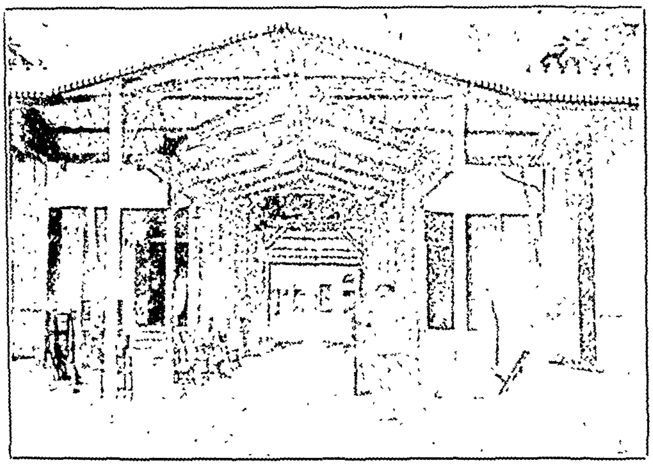
Bird's-Eye View, Convalescent Hospital, Corregidor Island, P. I.

At Manila are large general hospitals; one alone contained, at one time, 1400 patients. Here are sent patients requiring special treatment, and those from the crowded base hospitals. A receiving hospital assigns them to others of special function. Surgical cases are taken to one on an island at the entrance of Manila Bay; those convalescing from malarial fever, to another; medical cases and all diseases of the eye, to another; disabled soldiers who are to leave the service and whose disabilities are to be passed on by a medical board, and all soldiers who are to be sent to America for treatment, to another. From the latter the patients are transferred to the general hospital at San Francisco, from which point they are sent to such places as their special troubles demand or discharged from the service.

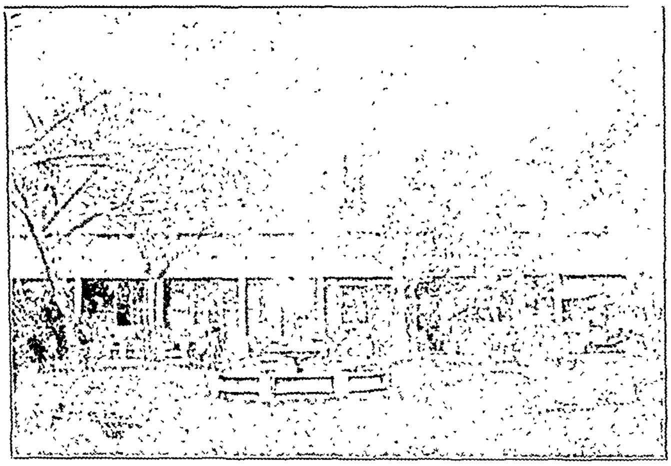
Contagious diseases are closely looked for, and few, if any, escape the hospital authorities. When a diagnosis is not clear a board investigates. All this work comes in the regular line of duty of the military surgeon.

The regular corps is at present supplemented by several hundred civil surgeons. Understanding the methods of the corps, the administrative work is naturally entirely in the hands of the surgeons of the regular army. Further assistance is rendered by the medical officers of the volunteer regiments, most of whom are permanently attached as regimental officers. As the regiments are broken up into small detachments for garrisoning, the need of a larger number of medical officers is pressingly increased. The distance between the posts is often considerable and traveling between them has, as a rule, been dangerous. In a land where physical exertion is impossible to the same extent as in the temperate zone, it requires a separate medical officer with each independent detachment that is at all removed from headquarters.

The proper work of the department is at present seriously handicapped, both by the small number of men, and further by the fact that the surgeons who are not members of the regular corps are inexperienced in the method of the department, though of sufficient professional attainments. The distribution of medical supplies is the reverse of that of forwarding the sick soldiers to the United States. With the United States as the source of supplies, through San Francisco they are shipped down to Manila as the central distributing point of the archipelago. Points accessible by water in Luzon and by the only railway are then supplied; and then the smaller posts in the respective districts of these depots, and so to the emergency hospitals.



First Reserve Hospital, Manila, P. I.—Front Entrance.



Main Entrance, Second Reserve Hospital, Manila.

The class and quantities of medicines are much different from those issued for the home troops. The diseases characteristic of the tropics require quantities of drugs scarcely used in the United States. The supplying of appropriate medicines and in sufficient quantity and in advance of the seasons when the demand for them will be the greatest, is a work calling for forethought, when we recall that many posts are cut off from all communication during the greater part of the rainy season. In Luzon, an island of some 40,000 square miles, Vigan and Aparri in the north are supplied from Manila by water communication; Angeles, in Luzon, by the railway; Nueva Caceres, in S. Luzon, by water. In the Viscayan Island Silay, Cebu and Zamboanga are the centers for their respective districts. The transportation of the sick and the supplies is supervised by the medical department, though it increases their work immensely. The character, number and quantity of supplies handled by the department is beyond belief. Medicines, foods necessary for the sick, instruments, mechanical and scientific apparatus and food, even ice, are supplied. It is hoped to equip all base hospitals with ice machines capable of an output of 3000 pounds per diem.

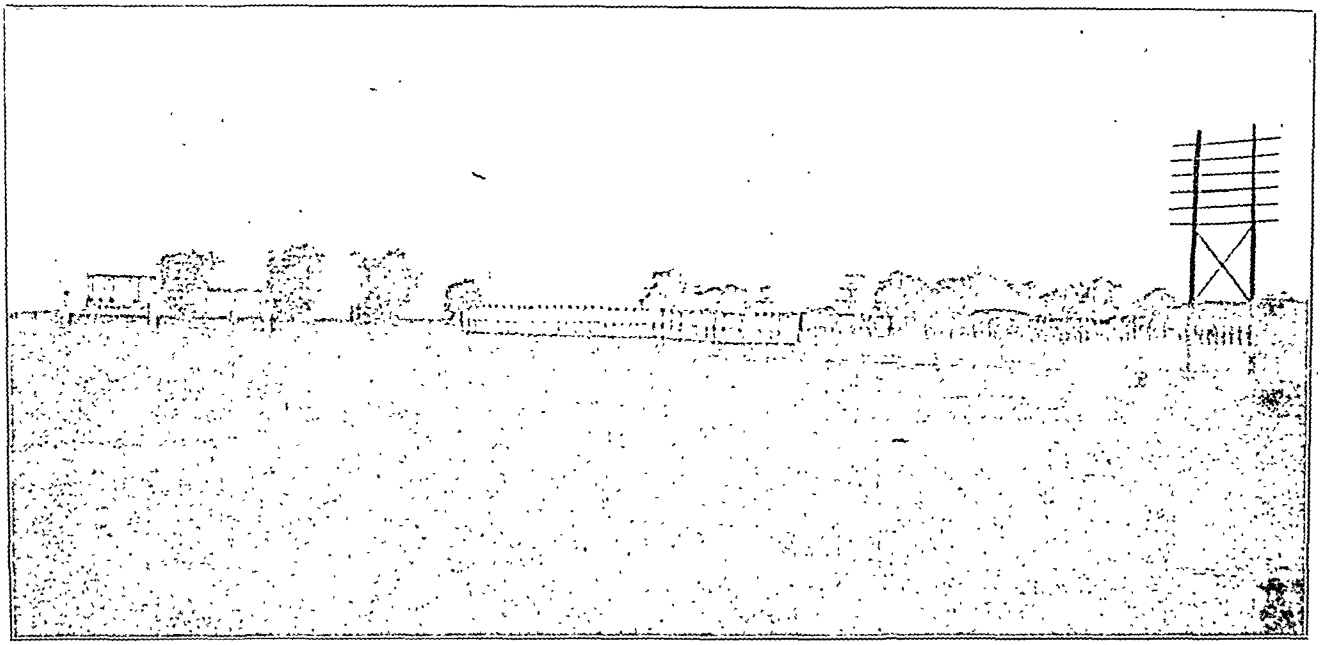
The medical officer is responsible for the care, discipline and existence of the soldiers who assist him in his professional duties, the hospital-corps men. Feeling the need of better trained men than the present system gives it, the department established a school for educating to a limited extent the subordinates on whom it must depend in both practical and theoretical branches. Men are assigned to a company of instruction for a period of eighteen weeks. Some fifty men are then gathered from the different districts of the department and drilled and taught theoretical and practical branches of hospital nursing, practical handling of the wounded on the field, ward work, cooking and administration of medicines. A smarter and more competent man is turned out and some bad material is gotten rid of. To those obtaining a certain degree of skill a certificate of proficiency is given at the recommendation of the officer who is acting as instructor. At present, while the company is an independent organization, it is located near Hospital No. 3, one of the largest hospitals in the islands, and the men taking this course are thus enabled to have practical instruction under close observation. Records are kept of the man's qualifications and conduct and at the end of his course he can be assigned where most needed, according to the cases for men of special aptitude or general proficiency. At the last graduation of this school these men were promoted to the rank of acting hospital steward.

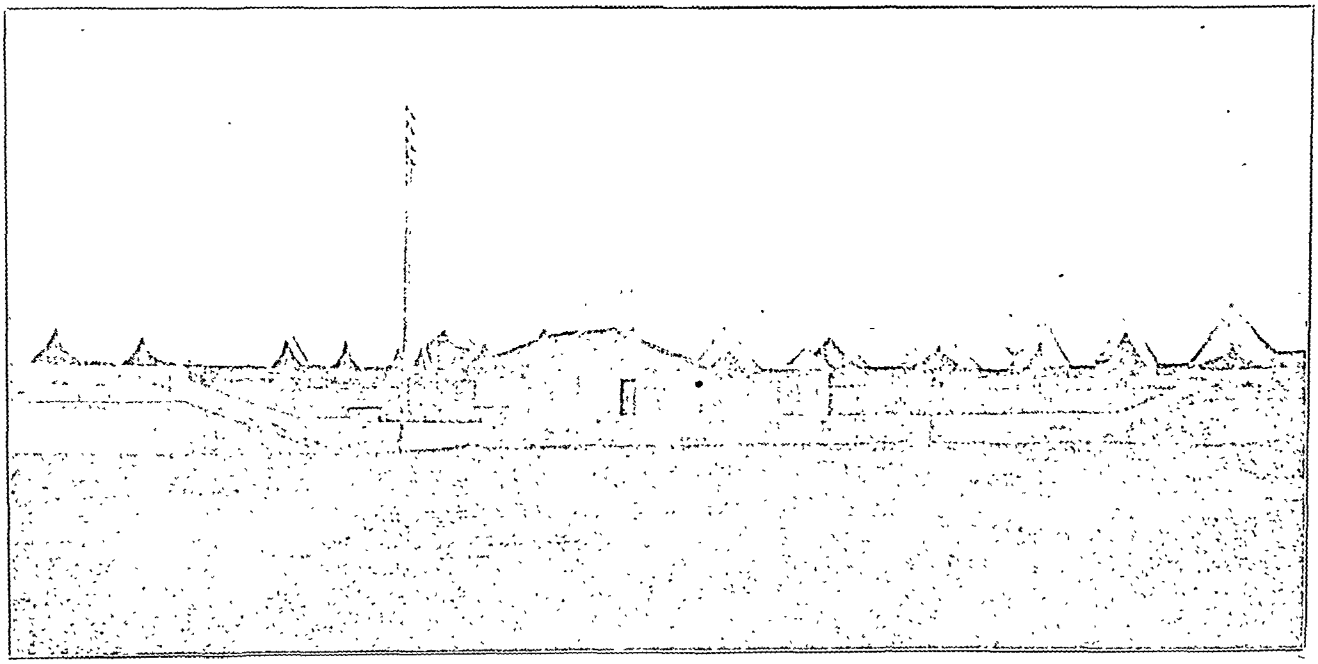
This brings us to the question of nurses. The experience of the United States Medical Department is that men of greater proficiency are needed in the hospital corps, and that with the training and wages paid to female nurses they will probably be forthcoming and have the advantage of being useful with moving columns in the field as well as in the general hospitals. Indeed, in them is probably to be found the solution of the interesting question.

Still further to better combat the diseases peculiar to the climate, medical officers have been studying tropical diseases, and recently several have been named to scientifically specialize on this subject. Their studies and the results will be followed most closely and possibly a special course may be offered to the junior medical officer when he comes to this island.

The question of transportation has already been touched on but much of the actual handling of the sick is done by the medical department alone and absolutely independent of the quartermaster's department. Two ships are under the orders and immediate control of the department, which are devoted wholly to the transportation of sick, or as actual hospitals. One has a capacity of 260 beds. It is easily seen what an important factor a hospital can be in relieving pain and sickness, and also even the mobility of a column, by immediately removing its disabled and making unnecessary the detaching of troops to protect its sick and wounded. The hospital is moved to the wounded, instead of the wounded to the hospital. In an archipelago with numerous scattered ports and with independent expeditionary forces this is a matter of first importance. The conditions could be still further improved by the addition of several small light-draft vessels. The present ships, while almost perfect in equipment and of good size, are often unable to get near enough shore to enable the sick to be easily taken off.

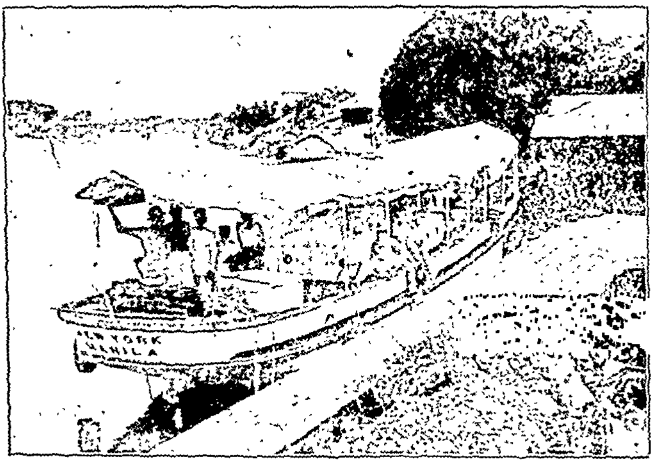
The only railway in the islands, tapping a large area and running through the seat of the most active operations and through almost the only country not open to water communication, becomes early an important artery of transportation of men and supplies to where most of our troops were operating. A surgeon was kept on duty on the daily train and ambulances run in connection with the distributing hospitals to Manila. To facilitate the handling of the very sick, and make the trying trip more endurable, two cars were fitted up. Cots were placed in them, a closet added; a small ice-chest, medicines and cooking apparatus were carried. The trip from Manila to the end of the line is twenty-four hours in time, and the convenience and comfort to all concerned can scarcely be overestimated. Hos-


Saturday Inspection, Hospital Corps, Detachments of Hospital No. 3, Manila, P. I.


Quarters of Company of Instruction at Manila, P. I.

pital corps soldiers were on duty and a surgeon at hand, so all emergencies were ably met.

Among the most important and difficult of the problems met in the administrative work of the medical department are those of public vaccination. The American soldier has been vaccinated when recruited and usually also previous to this. On the long trip to the Philippines he is vaccinated again, if necessary, and frequently as a matter of precaution. When finally permanently garrisoned he is contantly under the eye of a medical officer who sees that all the men are protected against smallpox. The result is that even in a country where it is epidemic, the disease has been of little trouble or danger to the American. But to the native it is far different. The many pox-marked faces are among the first thing peculiar to the country that impress the traveler. Its ravages have been dreadful but, in spite of its being among the most frightful of diseases, the Filipino pays little attention to it. Ignorant of all prophylactic measures, except inoculation, the funerals are public, the cases are visited by friends, and the family remains living in the same hut. The fact that it has been epidemic and endemic since Europeans first visited the islands has probably rendered it less severe to the descendants of the survivors; many are protected by the disease itself. The three districts of Northern Luzon may be taken as fairly indicative of the conditions prevailing elsewhere in the archipelago, except as to the number vaccinated. This is understood when we remember that only in the districts where peace prevails is it possible to vaccinate. Even here prejudice and ignorance have hindered the work, but this is true even of England and the United States.

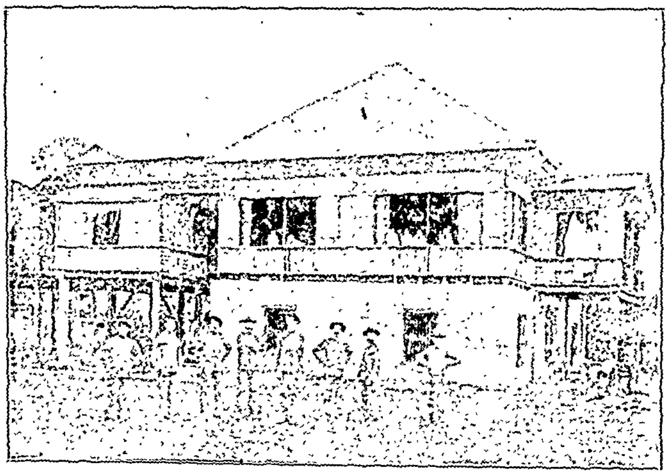


Hospital Steam Launch.

To supply the vaccin necessary for this great work the chief surgeon has established farms in Manila, and one in the southern islands. The lymph is procured from the cariboo, the indigenous water buffalo. The results, where the vaccin matter can be obtained fresh, are highly satisfactory. With the manufacture of vaccin at base hospitals, the lymph will be preserved and can be sent to all districts occupied by our troops, and the natives, as well as our troops, be protected.

It was natural to expect, under military government, that the city of Manila, the headquarters of the army, would be taken care of by the military régime, but more than that was done. Not only was the city cleaned, sewers repaired, filth removed and improvements generally instituted, but the city health was directly looked after by the medical department. A board of health was established. American quarantine officers had already taken up more thoroughly and efficiently the work formerly neglected by the Spanish régime. Practically a house-to-house inspection was made. The streets and public places had already been cleaned or work begun on them by the sanitary department. But now old vaults, dirty yards, and unhealthy places generally were ordered cleaned and the order strictly enforced. A smallpox hospital was established and cases were removed there and treated in isolation while the places formerly occupied were disinfected and quarantined and the other occupants vaccinated.

The success of the medical department in combating the scourge of the East, the black or bubonic plague, reflects most brilliantly its ability and its courage. This dread disease has been prevalent in Manila for many months, but we have yet to hear of the first case outside the city limits. The comparatively small number developing speaks well for the means adopted by the department, all of which were the most modern that science offers. The use of the odorless excavator owes its introduction in Manila to the medical department. The inspection of the abattoir, of the markets and the foods for sale in them are the civic duties in which the medical department is engaged. But this work does not stop in Manila. It is only more extensively carried on there. The same system prevails throughout the provinces occupied by our troops. Every city, village or hamlet occupied by troops is kept in the same clean condition. None are too small. The streets must be clean and the natives must not litter up the yard. The house and person of the native is, to his credit, usually extremely clean, but he is indifferent as to what his surroundings are or whence comes his water-supply. These important things are being rapidly taught them. Typhoid is endemic in the islands and garrisons have to be most careful in the selection of a water-supply.



Exterior from South End and Office, Regimental Hospital, Seventeenth U. S. I., Bautista, P. I.

Leprosy, the care of those afflicted with it, and the prevention of its further inroads, are subjects now occupying the medical department. A commission is searching for an island on which to establish a leper colony. Probably introduced from China, it has spread until there are in Northern Luzon some 12,000 (estimated) natives and Chinese afflicted with this disease. So far, it has been unrestricted, though for the relief of some of the sufferers a Chinese hospital exists. The supplies of medicines and other necessities may now be furnished. The medical officer in the isolated southern part of the island must receive the same care and attention to his applications for nurses or supplies as the one in Manila. The man in the interior of some mountainous province

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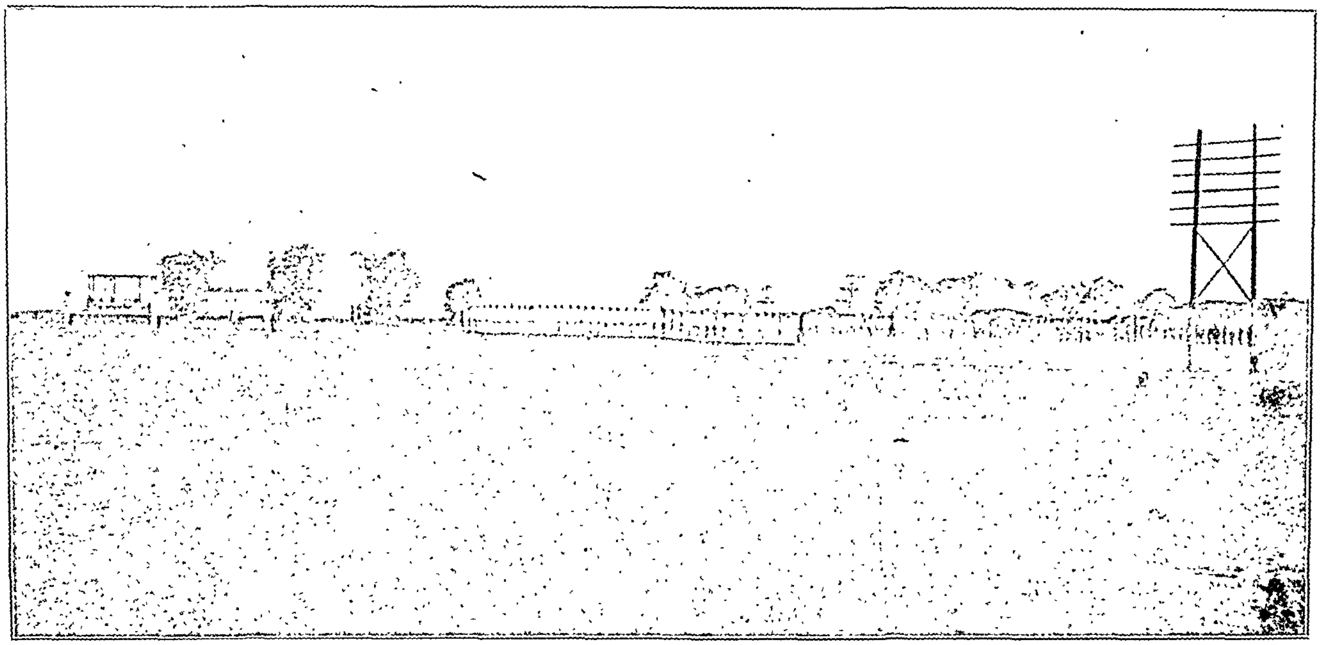
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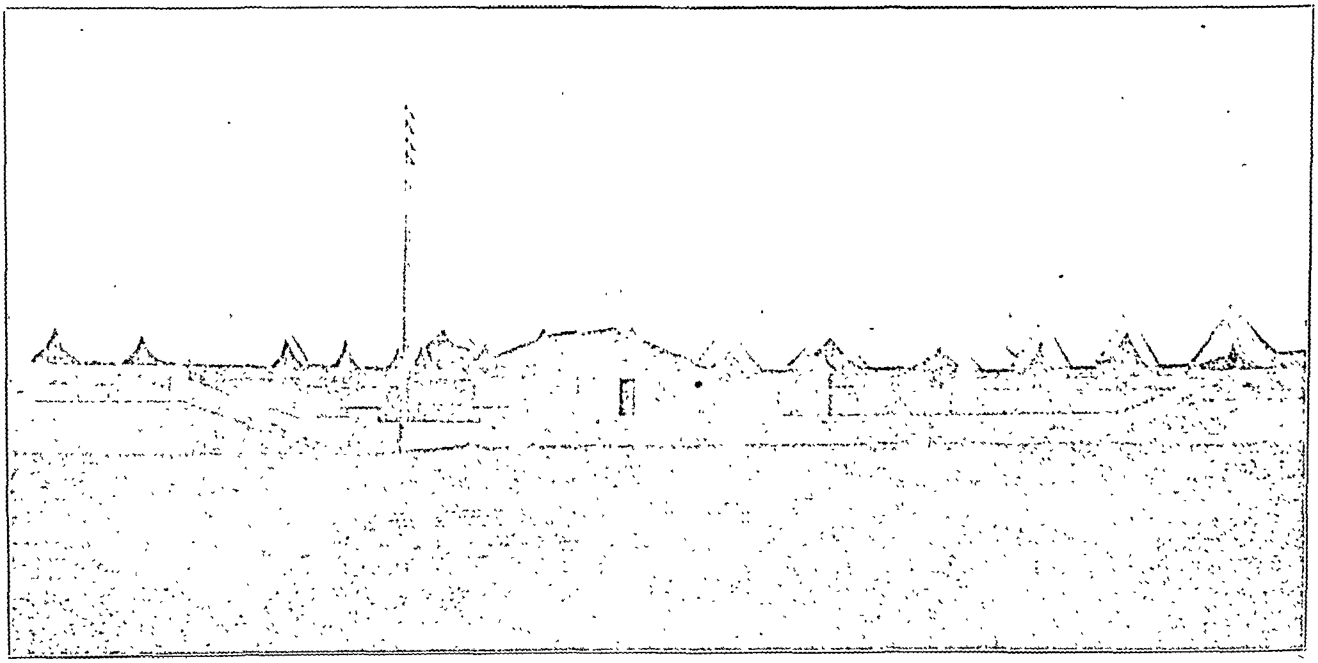
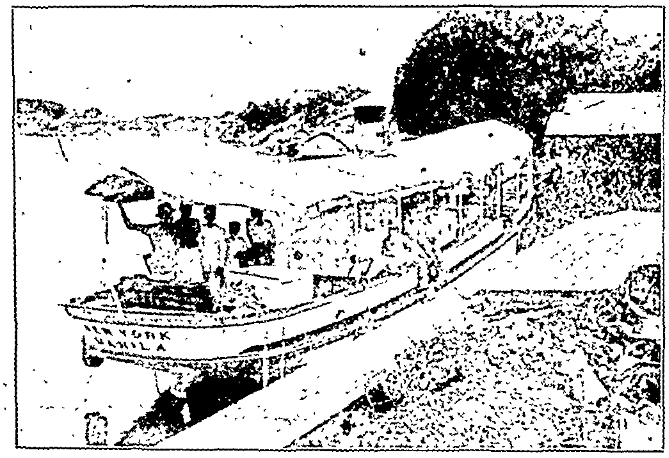

Quarters of Company of Instruction at Manila, P. I.

The only railway in the islands, tapping a large area and running through the seat of the most active operations and through almost the only country not open to water communication, becomes early an important artery of transportation of men and supplies to where most of our troops were operating. A surgeon was kept on duty on the daily train and ambulances run in connection with the distributing hospitals to Manila. To facilitate the handling of the very sick, and make the trying trip more endurable, two cars were fitted up. Cots were placed in them, a closet added; a small ice-chest, medicines and cooking apparatus were carried. The trip from Manila to the end of the line is twenty-four hours in time, and the convenience and comfort to all concerned can scarcely be overestimated. Hospital corps soldiers were on duty and a surgeon at hand, so all emergencies were ably met.

Among the most important and difficult of the problems met in the administrative work of the medical department are those of public vaccination. The American soldier has been vaccinated when recruited and usually also previous to this. On the long trip to the Philippines he is vaccinated again, if necessary, and frequently as a matter of precaution. When finally permanently garrisoned he is contantly under the eye of a medical officer who sees that all the men are protected against smallpox. The result is that even in a country where it is epidemic, the disease has been of little trouble or danger to the American. But to the native it is far different. The many pox-marked faces are among the first thing peculiar to the country that impress the traveler. Its ravages have been dreadful but, in spite of its being among the most frightful of diseases, the Filipino pays little attention to it. Ignorant of all prophylactic measures, except inoculation, the funerals are public, the cases are visited by friends, and the family remains living in the same hut. The fact that it has been epidemic and endemic since Europeans first visited the islands has probably rendered it less severe to the descendants of the survivors; many are protected by the disease itself. The three districts of Northern Luzon may be taken as fairly indicative of the conditions prevailing elsewhere in the archipelago, except as to the number vaccinated. This is understood when we remember that only in the districts where peace prevails is it possible to vaccinate. Even here prejudice and ignorance have hindered the work, but this is true even of England and the United States.

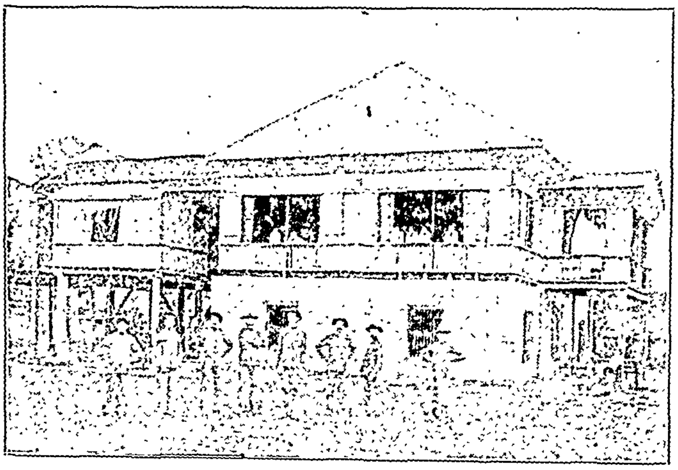


Hospital Steam Launch.

To supply the vaccin necessary for this great work the chief surgeon has established farms in Manila, and one in the southern islands. The lymph is procured from the cariboo, the indigenous water buffalo. The results, where the vaccin matter can be obtained fresh, are highly satisfactory. With the manufacture of vaccin at base hospitals, the lymph will be preserved and can be sent to all districts occupied by our troops, and the natives, as well as our troops, be protected.

It was natural to expect, under military government, that the city of Manila, the headquarters of the army, would be taken care of by the military régime, but more than that was done. Not only was the city cleaned, sewers repaired, filth removed and improvements generally instituted, but the city health was directly looked after by the medical department. A board of health was established. American quarantine officers had already taken up more thoroughly and efficiently the work formerly neglected by the Spanish régime. Practically a house-to-house inspection was made. The streets and public places had already been cleaned or work begun on them by the sanitary department. But now old vaults, dirty yards, and unhealthy places generally were ordered cleaned and the order strictly enforced. A smallpox hospital was established and cases were removed there and treated in isolation while the places formerly occupied were disinfected and quarantined and the other occupants vaccinated.

The success of the medical department in combating the scourge of the East, the black or bubonic plague, reflects most brilliantly its ability and its courage. This dread disease has been prevalent in Manila for many months, but we have yet to hear of the first case outside the city limits. The comparatively small number developing speaks well for the means adopted by the department, all of which were the most modern that science offers. The use of the odorless excavator owes its introduction in Manila to the medical department. The inspection of the abattoir, of the markets and the foods for sale in them are the civic duties in which the medical department is engaged. But this work does not stop in Manila. It is only more extensively carried on there. The same system prevails throughout the provinces occupied by our troops. Every city, village or hamlet occupied by troops is kept in the same clean condition. None are too small. The streets must be clean and the natives must not litter up the yard. The house and person of the native is, to his credit, usually extremely clean, but he is indifferent as to what his surroundings are or whence comes his water-supply. These important things are being rapidly taught them. Typhoid is endemic in the islands and garrisons have to be most careful in the selection of a water-supply.



Exterior from South End and Office, Regimental Hospital, Seventeenth U. S. I., Bautista, P. I.

Leprosy, the care of those afflicted with it, and the prevention of its further inroads, are subjects now occupying the medical department. A commission is searching for an island on which to establish a leper colony. Probably introduced from China, it has spread until there are in Northern Luzon some 12,000 (estimated) natives and Chinese afflicted with this disease. So far, it has been unrestricted, though for the relief of some of the sufferers a Chinese hospital exists. The supplies of medicines and other necessities may now be furnished. The medical officer in the isolated southern part of the island must receive the same care and attention to his applications for nurses or supplies as the one in Manila. The man in the interior of some mountainous province must have his supplies before the rains have made transportation impossible.

The position of chief administrative officer of this department calls for abilities equal to those necessary to the successful manager of a railroad system or a great industry. But it is not a question of profits that is the splendid reward, nor is it an independent personal fortune. The tremendous responsibilities are assumed for a modest salary.

This hurried recital of the work of the United States Medical Department in the Philippines will probably introduce to the practitioner at home duties he had never dreamed of as belonging to this corps.

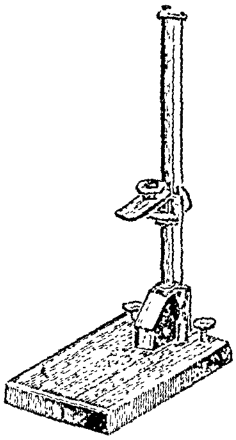
It would require a paper in itself to tell of the work the medical officer is doing among the natives of the islands in numerous little villages. The treatment of the sick, the government's generous distribution of medicines and food can not fail to elicit some feeling of gratitude, and moreover the sanitary measures will not fail to protect him and his family. The medical department will not be the least useful instrument employed in making Luzon a second Java.

A NORMAL ACOUMETER.*

E. AMBERG, M.D.

DETROIT, MICH.

If the eyes of a patient have been examined he may receive a certificate and go to any country with his ophthalmic passport. It is different with the ear.



Amberg's Acoumeter—One-fifth Natural Size.

The voices of different men vary, and instruments, which are precisely alike and can be used in precisely the same way by various examiners, do not exist. Even Politzer's acoumeter is not exempted, in my opinion.

After careful consideration of the merits of Politzer's instrument, I am convinced that the limit of exactness is not reached therein. In the first place it is too complicated to give a guarantee that all acoumeters can be constructed exactly alike, and there is a possibility that the same instrument produces different effects at different times, if differently handled by the examiners. For instance, the effects of elasticity are not entirely barred. Although the question may arise whether for our work those delicate discriminations should be considered, I am of the opinion that from a scientific point of view, if not from a practical one, we should have our instruments as exact as they can possibly be made.

Guided by a desire to have, at least for air conduction, an apparatus which excludes the possibilities of error as much as possible, I had one constructed, in Berlin, by Heele, maker of precision-instruments, which in my mind excludes errors to a greater extent than Politzer's acoumeter does. The principle of this apparatus is an old one. A steel ball of a certain weight, in this case of one gram, falls through a certain distance on a metallic block. The weight can be made absolutely correct. The surface, as to constitution and direction, can also be made absolutely correct; as the manufacturer told me metal of the same character can be procured at any time.

A similar instrument is used, for instance in psychophysical laboratories, in order to test the depth of sleep. I mentioned this fact some time ago when referring to my instrument on another occasion.

The conditions for examination can be changed, either by placing the apparatus at various distances from the patient's ear, or by changing the height from which the steel ball has to fall. I should like to suggest that, in comparing records, either the plan be adopted to place the instrument one or two meters from the patient's ear and to record the height, or else that the instrument may be moved and the distance recorded when the steel ball falls a certain number of millimeters.

I believe that Jacques Loeb has had experiments made on the ear with the aid of a similar instrument. I became acquainted with this fact after my apparatus had been constructed. The value of my apparatus consists in the fact that the instruments can be made so that they do not differ one from another.

32 Miami Avenue.

AMBLYOPIA FOLLOWING THE INTOXICATING USE OF JAMAICA GINGER.

SUBSEQUENT RECOVERY OF VISION.*

EDWARD STIEREN, M.D.

PITTSBURG, PA.

A careful search through American ophthalmic literature reveals eight recorded cases of blindness following the ingestion of ginger. One case is reported by Archibald G. Thompson,[1] of Philadelphia. Asst.-Surgeon J. B. Greene reports[2] a case which appears to be one of the six carefully reported cases of Hiram Woods,[3] of Baltimore.

The history of my case is as follows:

N. C. R., aged 36, contractor and builder, was first seen Sunday evening, Oct. 15, 1899, and appeared totally blind, requiring the services of a friend to lead him about.

He had been drinking heavily on Saturday and, on sobering up Sunday morning in a "dry" community where no liquor of any kind could be obtained, purchased from a storekeeper a box of a dozen bottles of Jamaica ginger, each containing about an ounce. The entire dozen were consumed before noon, the first four bottles diluted with water, the remaining eight undiluted. About noon he dropped into a drunken stupor, and awoke about 3 p. m. totally blind, but with no other untoward symptoms, except a consuming thirst. His alarmed cries brought friends to his assistance; they brought him to me about 6 p. m.

Examination revealed the following conditions: Pupils widely dilated, and unaffected by light or accommodation; conjunctiva slightly injected; media clear:

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* Demonstrated before the Detroit Medical Society, Nov. 7, 1900.

* Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Ophthalmic Record, November, 1897.

[2] Annual Report of the Supervising Surgeon-General of the U. S. Marine-Hospital Service, 1898.

[3] Ophthalmic Record, February, 1899.

no change whatever in disc or vessels, and beyond a slight blurring of edge of disc due to slight retinal edema, fundus of each eye was normal. Vision was almost nil; he could see hand moved at twelve inches. Cornea was almost totally insensitive to touch with camel-hair pencil.

Treatment consisted in immediate confinement to bed in a darkened room. Three hot foot-baths were given during the night, and 20 grs. each of calomel and compound jalap powder in divided doses. He received ⅛ gr. pilocarpin muriate hypodermically twice during the night.

This treatment caused active diaphoresis and catharsis, and at 9 o'clock the next morning patient was able to count fingers with each eye at ten inches.

The pilocarpin was continued, ⅛ gr. hypodermically at intervals of six hours, and calomel in 1 gr. doses every two hours for the next two days, when the pilocarpin was discontinued and 20 gr. doses of potassium iodid supplanted the calomel, slight tenderness of the gums occurring.

Patient's vision continued to improve, and on the fifth day he was allowed to come to my office; vision in each eye was 20/30. At no time was there any change in the ophthalmoscopic picture. His field of vision could not be obtained when first seen, but in the second office-visit, the fifth day after his indiscretion, no scotoma nor narrowing of the field could be demonstrated. Pupils reacted strongly to light and accommodation. He could read J. No. 1 with an effort, and read No. 4 readily. He has 1 D. hypermetropia with which, corrected, vision in each eye = 20/20.

I have seen this patient from time to time since his acute attack of blindness and, having been thoroughly frightened, he has totally abstained from alcoholic stimulants. His ocular condition remains the same as above noted. I saw him last, March 27, and obtained from him a negative history in regard to syphilis. He uses tobacco in moderation, and before his sudden attack of blindness, was a periodic alcoholic, going on a spree about once every six weeks and which usually lasted three to four days.

I believe, with Thompson and Woods, that the lesion in these cases is an acute retrobulbar neuritis, and that it is of a toxic nature.

The sudden onset in an individual who had practiced alcoholic indiscretions periodically for a number of years without any evil effects to his eyes, and who then becomes suddenly blind after drinking an enormous quantity of an irritating essence containing volatile oils, resins, and a questionable form of alcohol, inclines me to believe in the toxic factor in producing the neuritis. This belief is further strengthened when prompt eliminative measures are followed by improvement and cure.

THE DOUCHE IN THE TREATMENT OF OPHTHALMIA NEONATORUM.*

E. E. HOLT, M.D.
PORTLAND, ME.

On May 22, 1899, Dr. Fuller, of Bath, sent me an infant suffering from ophthalmia neonatorum. Dr. Fuller had been called in consultation to see the baby in Richmond and found it in such a critical condition that he advised having it taken to me at once. The baby was between two and three weeks old, and the disease had developed into a critical condition. There was a profuse purulent discharge issuing from both eyes, and so much chemosis and swelling of the lids that it was difficult to make a satisfactory inspection of the cornea of either eye; it was finally determined that the cornea was involved and about to break down in each eye.

The mother was making a supreme effort to save the sight of the child, having recently left her bed to make the journey to Portland. She was delicate, exceedingly nervous, but intelligent and anxious to do anything to save some sight for the child. As she was nursing the child I assured her that it was absolutely essential for her to compose herself in order to give her baby the best chance for recovery. This she did in a heroic manner; cow's milk was given in addition to that of the mother's. On carefully considering the case it did not seem to me that continuing the ordinary methods of treating eyes in such cases would preserve much sight for the child; but it occurred to me that if the eyes could be thoroughly douched and all the secretions from the conjunctiva kept constantly washed away there would be some chance of saving sight. Acting on this suggestion I took a Davidson syringe, and with the No. 1 point I pressed it between the lids at the outer canthus and threw a stream of tepid water containing about 1 per cent. of boric acid until I had used a quart or more for each eye. The point of the syringe was always directed away from the eyeball and was gradually worked along the whole length of the retrotarsal fold so that the conjunctival sac was thoroughly washed out. The douching of the eye was repeated every half hour, night and day, for the first twenty-four hours; then less frequently and at the end of the fifth day the baby was opening its eyes and looking about the room. This was certainly a revelation to me and the nurses who were familiar with the usual methods of treatment, and had witnessed the rapid change.

The cornea cleared, recovery was complete and the mother went home with all the happiness that could come from such a rapid and unexpected result.

The same method of douching has been carried out on other cases in about the same critical condition with the same happy result.

In the first case cited a 2 per cent. solution of nitrate of silver was used from the first and the eyes were cleansed by irrigations, pipettes and absorbent cotton. When the child came under my care the 2 per cent. solution of nitrate of silver was continued daily, care being taken that it did not reach the cornea; cold packs were applied to the lids between the intervals of douching, and the nourishment of the child was given all the attention possible.

All authorities are agreed that cleanliness is of the highest importance, but I fail to find any mention of the douche to accomplish this result. The douching may be carried out by the use of the fountain syringe, but I prefer the syringe like that known as the Davidson where the force of the stream can be increased or diminished at will. For the purpose of accomplishing the douching, especially at the beginning of the practice, I have had the Davidson Rubber Company make me a hook-like point which has several openings at its end that may be attached to the syringe and used instead of the No. 1 point that comes with the syringe.

I believe that the douche properly carried out will be as efficient to check the disastrous course of those cases of purulent conjunctivitis which have arrived at the critical condition here described as Credé's method is in preventing them from reaching this critical condition.

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*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

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THE PAST AND THE FUTURE.

With this issue we begin a new year and a new century. That just closed has been without parallel in the world's history in its material and scientific advances, and our science and our profession have not been the least sharers in the progress. The surgery of the beginning of the 19th century, as a distinguished authority has said, was nearer to that of the times of Hippocrates than to that of the present day, and the same is little less true of medicine in general and its related sciences, though the fact may not be so immediately apparent. In no corresponding period of the world's history as we know it, have there been so many epoch-making discoveries and so marked a general advance.

The medicine of 1800 was hardly less antiquated than its surgery, when compared with that of the present day, and this difference is not a matter of fashion or convention, but a scientific advance that stands the tests of time and experience. The marked prolongation of human life at the present time, over that of the 18th century or the beginning of the 19th, is of itself ample proof of the advance of medical science to which the science of hygiene owes its growth.

There is still another side to the shield, however; with all the progress of the past and present, there are still the old problems of death and disease to be met by our profession and some that are brought before us by the special conditions of our modern civilization. The world has, in a sense of the term, grown smaller and to the diseases of civilization through the increased and universal facilities of intercourse, we have to meet those of barbarism also. At the present time we are in the presence of a pandemic of plague, which has already invaded regions where it possibly was never known before, and we do not yet know what the outcome may be, though we do not fear a repetition of the wholesale epidemics of the past. There is occurring, apparently, a recrudescence of leprosy that threatens civilization, and it is to be expected that other disorders may extend their range and call for our serious attention if they do not materially affect our mortality rates.

What will be the problems and achievements of the coming century no man can prophesy and it would be rash to assume that equal progress will or will not be made. There are some who apparently believe that we shall solve all the mysteries of life, but they may be very much disappointed. What may be reasonably hoped for is a continuation of progress along the lines already opened, a greater perfection in technique, diagnosis and treatment, a widening of our pathologic knowledge, increasing acquaintance with the natural processes and remedies for disease, a better prophylaxis, and more than for anything else we should strive for a broader and deeper culture in our profession that will enable it not only to accumulate facts and originate theories, but to properly estimate them and utilize them.

That medicine starts in on the new round of years, greatly in advance of the position it occupied 100 years ago, is unquestioned. It has kept well abreast with the progress achieved in other fields of human endeavor. While marked by less productiveness and originality than in older countries yet American medicine during the nineteenth century has passed through a remarkable development fairly commensurate with the marvelous material progress of this country. During the nineteenth century things were achieved in medicine that were unknown and undreamt 100 years ago. But there are abundant unsolved problems left for the twentieth century to solve, and in the light of the achievements of the century just ended it is permissible to predict that great revelations are in store. During the coming years the productive activity now apparent in American medicine is bound to increase. The opportunities for investigation were never quite as promising as now. A new spirit—the university spirit—is beginning to make itself felt and to direct developments in medical education, and a corresponding elevation of standards in all lines of work is already apparent.

While assured that American medicine in the twentieth century will take an active part in the advancement of medical sciences, the sociologic relations of medicine in this country offer problems of great importance. There is need above all things for a greater public faith in the teachings and the advice of the medical profession in matters relating to hygiene and to the prevention of disease. Hygiene should dictate to legislators and courts of law and not economic interests alone. "Unfortunately on the human race there still weighs that fate by which both preventable diseases and premature deaths, as well as duration of life itself, essentially depend on economic institutions." There is hope that the twentieth century may witness great improvements as knowledge is disseminated and the mass of the people learn to place confidence in medical teaching.

The medical college in the coming century will have to give more attention to the quality than the quantity of its output, if present signs are not misleading. Human nature will not change; there will still be deceivers and their followers, but this will only accentuate the demand for higher qualifications in our profession. The future of science is not in doubt; the world will not stop in its progress nor loose what it has gained, but the future of the medical profession is in its own hands and can only be assured by its living up to its higher ideals.

be a loss. While it is reported that the *Philadelphia Medical Journal* has sunk a large amount of money in the three years of its existence, this does not reflect on the editorial management, but rather on the lack of business sagacity of those who put money into it. It does not require much of a mathematician to figure up the cost of paper, press-work, typesetting and postage; there need be no guess work about this. And when to these figures are added the other expenses connected with such an enterprise, which can be fairly well estimated, it ought to have been known that at the price charged a loss must result. If such a losing enterprise affected only those who backed it financially, it would be a serious matter to them alone, but in this instance it has a demoralizing effect on legitimate medical journalism.

THERAPEUTIC NIHILISM.

Optimism, not pessimism, is needed in medicine; not. however, the optimism that takes up each new fad to the exclusion of old and tried measures, but the kind that begets hopefulness and confidence. There is a tendency, among a few, to therapeutic nihilism that is to be regretted. He who has watched a huge cardiac edema subside under the intelligent administration of digitalis, or who has seen an angry tertiary syphilid fade away under full doses of potassium iodid, or, above all. who has seen the threatening false membrane of diphtheria shrivel and fall after the use of antitoxin can never honestly express a disbelief in the benefits of modern therapeutics. Those who are yet opposing the use of antitoxin argue chiefly from *a priori* reasoning. The men who are treating diphtheria with antitoxin and who are old enough to compare their own results under the old means with those since they began to employ the new, have another tale to tell. The therapeutic nihilist has no place in modern medicine; now the science of therapeutics is becoming thoroughly rational. Profession of disbelief in measures for aiding in healing of disease is a confession of personal failure in practice. The fault is in the man, and not in the method. Many diseases yet baffle us, and many of our agents are not yet perfect, but the spirit that will lead to a better state of affairs is only that of hopefulness and of belief in the capacity of medical science to grow until more and more diseases are conquered.

THE TOXIC EFFECTS OF FORMALDEHYDE (FORMALIN).

The general use made of formaldehyde—especially in the form of the commercial 40 per cent. solution in water, known as formalin—as a disinfectant, as an embalming fluid by undertakers, and in histologic laboratories makes the experimental study of its toxic effects desirable. In a preliminary communication, Martin Fischer[1] shows that the inhalation of formaldehyde produces a marked inflammation of the respiratory tract. Injections into the stomach produce a variety of symptoms, and even sudden death; apparently the intensity of the symptoms and the degree of histologic disturbances bear no direct relation to strength or quantity of formalin introduced. Intense congestion, extensive necrosis and inflammatory reaction occur. Intraperitoneal injections produce a fibrino-hemorrhagic peritonitis of varying intensity, according to the strength of the solution. Subcutaneously injected, formalin produces a marked exudation and leucocytic infiltration. The eye is especially sensitive to the action of formalin. A single drop of concentrated formalin may injure the eye permanently, due largely to an intense edema of the eye-lids, which are prevented from closing. Various degenerative changes and focal necrosis are seen in the liver and the kidneys, no matter where formalin is introduced into the body. The leucocytic infiltration after the introduction of formalin is characterized by the eosinophiles appearing the first, followed by other polymorphonuclear forms, the small mononuclears appearing last. Fischer believes that osmotic disturbances are to be held accountable for the exudation and the cellular necrosis. Deleterious chemical action causes the changes seen in organs distant from the point of injection. A substance as active as formaldehyde, and in so general use, is of much toxicologic importance and, judging from Fischer's experiments, it certainly behooves all that employ this substance to exercise the greatest care, lest serious accidents happen.

LAY MANAGEMENT OF MEDICAL INSTITUTIONS.

It is a common practice of politicians, and sometimes also of lay professional philanthropists and others, to charge physicians with a lack of business or so-called executive ability and to therefore insist upon lay management of medical institutions. It is very exceptionally the case that facts justify this assumption, while a very large number of cases can be cited where lay management is unbusinesslike and even disastrous. The needs of a medical establishment, and especially of a hospital, can only be fully appreciated by a medically-educated man, and it often happens that while finances may be economically administered, the real purpose of the charity is to a greater or less extent frustrated by the ignorance or obstinacy of its lay administrators. Even this judicious management of funds is not the universal rule and the worst financial scandals occur under just such conditions. The *Medical Press and Circular* editorially mentions an instance of fatuous financing of a public charity by lay managers that strikingly illustrates this point. The oldest and best known ophthalmologic hospital in Great Britain, until recently, occupied freehold premises of immense and increasing value. On the plea that they were inadequate the committee sold the premises, transferring the hospital to grounds involving a yearly rental of thousands of dollars and heavy taxes. Then they sank the amount derived from the sale of their old site in their new building and deprived the hospital of apparently its only permanent asset. It is said, moreover, that the charities commissioners will require that the value of the site be made up within a definite period, thus making an additional charge upon the hospital. Altogether it appears to be about as bad a piece of financing a trust as can well be imagined, but it is not without its counterparts. Medical administrators may have their faults, but they could hardly be worse than their lay confrères; they have, moreover, what the others lack, a professional in the clinical signs, with diminution in the amount of expectoration and disappearance of tubercle bacilli from the sputum.

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[1] Journ. Boston Soc. of Med. Sc., 1900, v, 18-22.

We have no wish to be pessimistic, but a rather disappointing experience has taught us not to expect too much from any method of treatment for pulmonary tuberculosis that has not been on trial for years and has sustained its early reputation. Too often have we read reports almost identical with those cited, but time has merely proved the fallacy of generalizing upon insufficient experience. Besides, we doubt if the intravenous method of treatment will ever become a popular or even generally commendable one, as it offers numerous opportunities for grave accidents. We are hopeful that a specific for tuberculosis will yet be discovered, and we believe that it will be of biologic origin, but it must be borne in mind that the infection in cases of pulmonary tuberculosis often becomes early a mixed one and we may then have to do with serious complications. The treatment, therefore, will always have to be general and be directed both to the constitutional state as well as to the local lesion.

DISEASES FROM VEGETABLES.

Some time ago The Journal[1] noticed editorially an epidemic of typhoid in an eastern institution that was traced to eating raw celery, and incidentally pointed out the possible dangers of eating uncooked garden vegetables. Quite recently a series of observations have been made by Professor Gualdi, of the Bureau of Hygiene, at Rome, on the relations existing between the occurrence typhoid and the consumption of raw vegetables. As orted in the Rome correspondence of *The Lancet,*[2] e finds a close connection between the two, the seasonal curve of typhoid corresponding very closely to that of the quantity of such vegetables sold in different months of the year. Neither the water-supply nor milk contamination are able to satisfactorily explain the facts that can be accounted for in this way.

At Padua a careful and extended microscopic and bacteriologic study of garden vegetables has also been carried out by Professor Ceresole which clearly demonstrates their importance as typhoid-producers. After first thoroughly washing them with the excellent local aqueduct water, the vegetables—lettuce, endives, radishes, fennel and celery—to put them in the condition in which they are usually eaten, they were cut up fine with sterilized scissors and placed in a flask of distilled and sterilized water. After a thorough shaking the water was examined microscopically and bacteriologically. The microscopic examination revealed, besides a host of innocuous forms, ameba coli, balantidium coli, isotrica prostoma and anguillula stercoralis, together with eggs of tenia, oxyuris, ascaris, trichocephalus and ankylostoma. The bacteriologic examination revealed such a host of species that identification of every one was impracticable, but among them were found bacillus coli, septicus, tetani, and a form indistinguishable from B. typhosus. Six animals inoculated with washings, after they had been some minutes heated, all died, five from malignant edema and one from tetanus. Four animals were inoculated with washings not heated, one died with malignant edema, one with tetanus and the other two had locally at the point of inoculation large abscesses from which pure cultures of streptococcus and staphylococcus were obtained.

If vegetables elsewhere are at all comparable, as regards their pathogenic associations, with those of Italy, vegetarianism ought to be at a discount and most of us would do well to make our wills. It is probable that germs enough abound and that we occasionally suffer from their activity; certainly there is good reason to be cautious in eating uncooked vegetables. The fact that ordinary washing is not sufficient to destroy or remove them, as is indicated by Professor Ceresole's experiments, is important, as is also the fact that he states that a half-hour's soaking in a 3 per cent. solution of tartaric acid—about one ounce to the quart of water—is an efficient disinfectant. The danger is one worthy of investigation and while it is not so imminent as it might appear, since most of us must have acquired a certain degree of immunity, yet the products of the truck gardens in the vicinity of large towns, particularly in continental Europe, are not above suspicion of contamination of a possibly dangerous type. It would be well for those investigating obscure causes of epidemics of typhoid to bear in mind this possible causation.

MOB LAW IN COLORADO.

The Denver *Medical Times* for December contains as its editorial leader a lucubration which, though its title is "Mob Law in Colorado," in tone is distinctly apologetic for the recent atrocious lynching where a negro was burned at the stake. If the lack of provision for capital punishment in Colorado's laws involves the alternative of such occurrences, the sooner hanging is reinstated the better; there ought to be no lack of executioners since so large a portion of the community are willing to volunteer not merely as hangmen, but as torturers. The proceeding was a disgrace to the age and to the state, and while we can recognize the possibility of a temporary delirium affecting the community, its late condonation has not even this excuse.

EDITORIAL CHANGE IN THE PHILADELPHIA MEDICAL JOURNAL.

Dr. George M. Gould has retired from the editorship of the *Philadelphia Medical Journal,* Drs. John Hendrie Lloyd and Julius L. Salinger assuming charge of the editorial management. This announcement will be a surprise to most of our readers, as it was supposed that Dr. Gould was inseparably connected with that journal. We doubt, however, if he will stay out of medical journalism long, as it is a work he loves and for which he is well fitted. He has always stood for high ideals in medicine and medical journalism and his continued absence from the editorial ranks would be a loss. While it is reported that the *Philadelphia Medical Journal* has sunk a large amount of money in the three years of its existence, this does not reflect on the editorial management, but rather on the lack of business sagacity of those who put money into it. It does not require much of a mathematician to figure up the cost of paper, press-work, typesetting and postage; there need be no guess work about this. And when to these figures are added the other expenses connected with such an enterprise, which can be fairly well estimated, it ought to have been known that at the price charged a loss must result. If such a losing enterprise affected only those who backed it financially, it would be a serious matter to them alone, but in this instance it has a demoralizing effect on legitimate medical journalism.

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[1] Vol. xxxiv, p. 240. [2] November 24, p. 1540.

THERAPEUTIC NIHILISM.

Optimism, not pessimism, is needed in medicine; not. however, the optimism that takes up each new fad to the exclusion of old and tried measures, but the kind that begets hopefulness and confidence. There is a tendency, among a few, to therapeutic nihilism that is to be regretted. He who has watched a huge cardiac edema subside under the intelligent administration of digitalis, or who has seen an angry tertiary syphilid fade away under full doses of potassium iodid, or, above all. who has seen the threatening false membrane of diphtheria shrivel and fall after the use of antitoxin can never honestly express a disbelief in the benefits of modern therapeutics. Those who are yet opposing the use of antitoxin argue chiefly from *a priori* reasoning. The men who are treating diphtheria with antitoxin and who are old enough to compare their own results under the old means with those since they began to employ the new, have another tale to tell. The therapeutic nihilist has no place in modern medicine; now the science of therapeutics is becoming thoroughly rational. Profession of disbelief in measures for aiding in healing of disease is a confession of personal failure in practice. The fault is in the man. and not in the method. Many diseases yet baffle us, and many of our agents are not yet perfect, but the spirit that will lead to a better state of affairs is only that of hopefulness and of belief in the capacity of medical science to grow until more and more diseases are conquered.

THE TOXIC EFFECTS OF FORMALDEHYDE (FORMALIN).

The general use made of formaldehyde—especially in the form of the commercial 40 per cent. solution in water, known as formalin—as a disinfectant, as an embalming fluid by undertakers, and in histologic laboratories makes the experimental study of its toxic effects desirable. In a preliminary communication, Martin Fischer[1] shows that the inhalation of formaldehyde produces a marked inflammation of the respiratory tract. Injections into the stomach produce a variety of symptoms, and even sudden death; apparently the intensity of the symptoms and the degree of histologic disturbances bear no direct relation to strength or quantity of formalin introduced. Intense congestion, extensive necrosis and inflammatory reaction occur. Intraperitoneal injections produce a fibrino-hemorrhagic peritonitis of varying intensity, according to the strength of the solution. Subcutaneously injected, formalin produces a marked exudation and leucocytic infiltration. The eye is especially sensitive to the action of formalin. A single drop of concentrated formalin may injure the eye permanently, due largely to an intense edema of the eye-lids, which are prevented from closing. Various degenerative changes and focal necrosis are seen in the liver and the kidneys, no matter where formalin is introduced into the body. The leucocytic infiltration after the introduction of formalin is characterized by the eosinophiles appearing the first, followed by other polymorphonuclear forms, the small mononuclears appearing last. Fischer believes that osmotic disturbances are to be held accountable for the exudation and the cellular necrosis. Deleterious chemical action causes the changes seen in organs distant from the point of injection. A substance as active as formaldehyde, and in so general use, is of much toxicologic importance and, judging from Fischer's experiments, it certainly behooves all that employ this substance to exercise the greatest care, lest serious accidents happen.

LAY MANAGEMENT OF MEDICAL INSTITUTIONS.

It is a common practice of politicians, and sometimes also of lay professional philanthropists and others, to charge physicians with a lack of business or so-called executive ability and to therefore insist upon lay management of medical institutions. It is very exceptionally the case that facts justify this assumption, while a very large number of cases can be cited where lay management is unbusinesslike and even disastrous. The needs of a medical establishment, and especially of a hospital, can only be fully appreciated by a medically-educated man, and it often happens that while finances may be economically administered, the real purpose of the charity is to a greater or less extent frustrated by the ignorance or obstinacy of its lay administrators. Even this judicious management of funds is not the universal rule and the worst financial scandals occur under just such conditions. The *Medical Press and Circular* editorially mentions an instance of fatuous financing of a public charity by lay managers that strikingly illustrates this point. The oldest and best known ophthalmologic hospital in Great Britain, until recently, occupied freehold premises of immense and increasing value. On the plea that they were inadequate the committee sold the premises, transferring the hospital to grounds involving a yearly rental of thousands of dollars and heavy taxes. Then they sank the amount derived from the sale of their old site in their new building and deprived the hospital of apparently its only permanent asset. It is said, moreover, that the charities commissioners will require that the value of the site be made up within a definite period, thus making an additional charge upon the hospital. Altogether it appears to be about as bad a piece of financing a trust as can well be imagined, but it is not without its counterparts. Medical administrators may have their faults, but they could hardly be worse than their lay confrères; they have, moreover, what the others lack, a professional interest in their charge and we believe also, as a rule, a feeling of professional honor, which is a better insurance of honest administration than much of the average business principles extant. It may be that sometimes these latter, as our English contemporary strongly hints, are not used to the best advantage of medical trusts confided to the care of business men.

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[1] Journ. Boston Soc. of Med. Sc., 1900, v, 18-22.

PROFESSIONAL APATHY.

The *Practitioner* editorially bemoans the apathy of the majority of the members of the medical profession. As an illustration it cites the annual meeting of the Fellows and Members of the Royal College of Surgeons, of England, at which only ten of the 1300 Fellows and less than three-score of the 17,500 Members thought it worth while to attend. The meeting is characterized as representing nothing "but the total indifference of the body corporate to the affairs of the College." As a remedy it recommended, and wisely too, that the members be given a share in the management of the College, which it seems that they do not have now. By so doing it is hoped that the members may be roused from the apathy that now delays and hinders the removal of grievances and disabilities of the medical profession in England. This goes to illustrate that in this case, as in so many others with which we are more directly familiar, it is largely the fault of the physicians themselves that the "well-being of the medical commonweal" is allowed to suffer neglect. How many a time throughout our various states has not a worthy cause of vital interest to the medical profession been ruined by careless advocacy? Whenever the medical profession joins its efforts in a movement concerning the earnestness of which there is no doubt it is quite sure to carry its point. As indicated by the *Practitioner*, in commenting on some remarks in The Journal for November 3, on "Medical Men in Politics," "is it not mainly the fault of the doctors themselves that they are so poorly represented in the legislative councils?"

THE BACTERIOLOGY OF YELLOW FEVER.

Walter Reed and James Carroll have made a comparative study of the biological characters and pathogenic actions of bacillus X of Sternberg, bacillus icteroides of Sanarelli, and the hog cholera bacillus.[1] The results will be of much interest to those who have followed the controversy in regard to the etiology of yellow fever, which has been going on for some time between these authors and Sanarelli. Reed and Carroll conclude that Sternberg's bacillus X belongs to the colon group, and that Sanarelli's bacillus icteroides, proclaimed by its discoverer to be a cause of yellow fever, is a member of the hog-cholera group, because the various channels of infection, the duration of the disease and the gross and microscopic lesions in mice, guinea-pigs and rabbits are the same for B. icteroides and the hog-cholera bacillus. Comparison of the cultural characteristics also indicate that bacillus icteroides should be put among the hog-cholera group of bacteria. The hog-cholera bacillus of Salmon and Smith and bacillus icteroides produce the same clinical symptoms and anatomical lesions by intravenous injections in dogs. Bacillus icteroides, when fed to domestic pigs, causes fatal infection with diphtheritic, necrotic and ulcerative lesions in the digestive tract, such as are seen in hog-cholera. Guinea-pigs may be immunized with sterile cultures of bacillus icteroides from a fatal dose of the hog-cholera bacillus and vice versa; and rabbits may be immunized from a fatal dose of the hog-cholera bacillus by increasing doses of living cultures of bacillus icteroides. Serums of animals immunized with bacillus icteroides and with the hog-cholera bacillus, respectively, show a marked reciprocal agglutinative reaction. The blood of yellow fever practically does not exercise an agglutinative reaction upon bacillus icteroides, while the blood of hog-cholera agglutinates this bacillus in a much more marked degree. Add to this the fact that bacillus icteroides may be absent from the blood of yellow-fever patients during life and from the blood and the organs after death, and it seems quite evident that bacillus icteroides can not be regarded as bearing any closer relationship to yellow fever than that of an occasional secondary invader. The essential outcome of the matter is that the etiology of yellow fever is still an unsolved problem.

POLYMYOSITIS.

Although inflammation of muscle is not a rare complication of other diseases, it is exceedingly uncommon as a primary and independent affection. It is likely that the muscular involvement of acute rheumatism is inflammatory in character, and it may be that a part of what we are accustomed to designate subacute or muscular rheumatism and some forms of myalgia are also of like nature. It seems, further, not impossible that some cases diagnosed neuritis are complicated by, if not primarily a condition of, myositis. Some difference of opinion prevails as to whether the several varieties of primary muscle-inflammation are identical in character, though differing in degree—dependent upon the same cause, and the symptomatology varying with the virulence and the volume of the infecting agency on the one hand and the susceptibility of the individual attack on the other hand—or, whether the etiology is diverse and multiple. A clinical and pathological distinction can be made between purulent and non-purulent myositis; and of the latter, three varieties can be recognized, namely, *dermatomyositis, hemorrhagic polymyositis*, and *polymyositis associated with multiform erythema*. To the small number of cases of acute hemorrhagic polymyositis on record Struppler[1] adds the report of another, occurring in a laborer, 33 years old, and terminating fatally from edema of the larynx in the course of six days. The onset was sudden, without prodromes, and the clinical manifestations included articular pain, moderate elevation of temperature, profuse sweating, increased pulse-frequency, cutaneous hemorrhage, tumefaction and infiltration of various muscles of the upper and lower extremities, with slight superadjacent doughy edema, glossitis, angina, edema of the larynx and fibrinous pleurisy. Post-mortem examination disclosed polymyositis of the supinators and extensors of both arms, with hemorrhagic extravasations in the muscles and the skin and in the palatopharyngeal arch, the peritracheal tissues and the lungs. The heart was not involved. The spleen was slightly enlarged. Struppler reports also a case of recurrent acute rheumatic polymyositis associated with multiform erythema, occurring in a painter, 24 years old, with involvement of the frontal muscles and the left temporal muscle, which suddenly became the seat of a tender edematous swelling, in addition to the gastrocnemii and the right peroneus brevis.

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[1] Jour. Exp. Med., 1900, v, 215-270.

[1] Deutsches Archiv f. Klin. Med., Bd. lxviii, H. 5 u. 6., p. 407.

Medical News.

CALIFORNIA.

DR. JOHN FIFE, Red Bluff, has been appointed physician of Tehama County at a salary of $80 per month.

THE POSITION of health officer of Humboldt county was abolished by the supervisors, December 12. What the county will do after January 1 without a health officer is a matter of conjecture and even the supervisors who abolished the office are ignorant as to the outcome of their order.

THE CALIFORNIA HOSPITAL, Los Angeles, at the annual meeting of its stockholders, December 18, elected Dr. Fred T. Bicknell, president; Dr. Everett R. Smith, vice-president; Dr. Walter Lindley, secretary and manager, and Dr. William W. Hitchcock, treasurer. During the two years and four months since the hospital was opened, 2325 patients have been treated, and the capacity of the institution has been nearly doubled in the last year, by the construction of an annex.

THERE IS TROUBLE in San Francisco because the Pacific Coast Regular College of Medicine, a night medical school, incorporated in May, 1900, proposes to graduate seven students this month. It is claimed that 2 of the 7 would-be graduates have no certificates showing that they have taken the requisite courses of study and passed the required examination. There is nothing in the law of California to prevent any enterprising person from incorporating himself and a few of his friends as a medical college and thereafter issuing degrees after compliance by the graduates with such requirements as may seem to suit him best. Dr. Dudley Tait, of the State Board of Examiners, says he will oppose the granting of licenses to the graduates of this school.

PLAGUE REPORT.

The case of a man residing at 844 Washington street, with suspicious symptoms of plague, was reported to the health office on December 6. Dr. Kellogg, the city bacteriologist, saw the man at 4.30 p. m. of that day with Drs. Morrissey and Pratt. They found a Chinaman, named Lee Ho, in a comatose condition, pulse 146 and very weak. The temperature was not taken, but the man's body was very warm to the touch, while the extremities were cool and cyanotic. There were no petechiæ in the skin. There was a very large and tender bubo in the left femoral region. Blood would not flow from the ear, but the bloody fluid secured by aspiration of the bubo showed numerous plague bacilli. The people in the house could give no intelligent account of his illness, but said he had been sick only six days. The patient died the next morning at 10 a. m. and Dr. Kellogg performed an autopsy on the afternoon of the same day, Drs. Rykfogel, Kinyoun, Wilson, Morton, and Brown being present. The subject was a well-developed, well-nourished medium-sized male. The heart and lungs were normal, the right lung being bound down by extensive adhesions. There was about 15 c.c. of blood-tinged serum in the pericardium, and about 60 c.c. in each pleura. The liver was fatty. The spleen was about twice its normal size, dark red and soft, a cut section showing whitish specks scattered over its surface. The kidneys were normal in size, dark in color, and considerable fluid blood exuded from their cut surfaces. Their capsules stripped easily. The mesenteric glands were slightly enlarged. The small intestines contained a few submucous hemorrhages. The diagnosis in the case of Lee Ho has been fully confirmed by inoculating animals with a pure culture obtained from his blood the day before he died. The guinea-pig died in three days with typical plague lesion, and the organism was obtained in pure culture from its spleen.

COLORADO.

DR. WILLIAM L. KELLER, acting post-surgeon at Fort Logan, Denver, has been assigned to duty in the Philippines. He has been succeeded by Dr. Louis Brechemin.

DR. MARY KAVENY, Denver, who recently brought suit against Dr. Clayton Parkhill, for $10,000 damages, because of an alleged shortening of one quarter of an inch in a leg treated by him, has refused to allow X-ray photographs to be taken of the leg, and in consequence the suit will probably be dropped.

THE SECRETARY of the State Board of Health states that there are 50 cases of smallpox in El Paso county, 16 in the Cripple Creek district, 25 in Pueblo, 20 in Denver and 10 in Clear Creek county. There are also scattering cases in nearly all the mining camps. Extra precautions are being taken by the local health boards.

CONNECTICUT.

TWO NEW HAVEN PHYSICIANS, Percy D. Littlejohn and Alfred G. Nadler, have offered their services as medical examiners in the public schools, free of charge.

THE COMMISSION appointed by the National Association for the Study of Epilepsy, to collect statistics relative to the malady and to assist in a movement to establish a state asylum for epileptics, consists of Drs. Frank K. Hallock, Bridgeport; Max Mailhouse, New Haven, and Edwin A. Down, Hartford.

THE GENERAL HOSPITAL SOCIETY of Connecticut has agreed to allow Yale University to erect a clinic building for its medical school, on the hospital grounds, in New Haven. The building will cost $3500 and is to be used by professors and instructors of the medical school. The university will pay a small rent for the current expenses of the building.

THE HARTFORD HOSPITAL held its annual meeting December 19 and announced the following changes in its staff: Dr. Frederick T. Simpson becomes consulting physician and surgeon; Dr. Everett J. McKnight succeeds the late Dr. Melancthon Storrs as visiting surgeon, and Dr. Walter R. Steiner is appointed pathologist and bacteriologist in place of Dr. John B. McCook, who is made assistant surgeon.

DELAWARE.

SURGEON HIRAM W. AUSTIN, U. S. M.-H. S., has been appointed medical officer in charge of the national quarantine service on the Delaware river and bays, which includes the quarantines at the Delaware Breakwater and Reedy Island.

THE MEDICAL EXAMINING BOARD, representing the president and fellows of the Medical Society of Delaware, met at Dover, December 11, 12 and 13, to examine candidates for licenses to practice medicine and surgery in the state. Seven candidates appeared.

THE RESULT of the execution of the law regulating the practice of medicine and surgery in the state is shown in the report of the medical examining boards for the year. Of regular medical colleges, 61 graduates applied; of homeopathic colleges, 13. The failures to pass occurred in the cases of 14 regulars and 1 homeopath.

ILLINOIS.

THE MAYOR of Moline has appointed W. A. MacBeth, a civilian, as a director of the hospital board to succeed Dr. A. H. Arp.

C. A. LUNDGREN, a magnetic healer, of Moline, was fined $100 and costs on December 21, for practicing medicine without a license. He was committed to jail on his refusal to pay his fine.

EVANSTON HOSPITAL is to be improved by the erection of the new Herman D. Cable memorial building, a three-story isolation, a boiler-house and numerous improvements to the present buildings, at an expense of nearly $50,000.

Chicago.

THE ISOLATION HOSPITAL received two smallpox patients on December 29, neither of whom had been vaccinated.

THE EXECUTORS of the will of the late George M. Pullman have paid Mary Thompson Hospital $10,000; St. Luke's Hospital $20,000, and Presbyterian Hospital, $10,000.

ST. LUKE'S HOSPITAL and two of its attending staff have been sued for $5000 damages because a boy treated at the institution and in the service of the two gentlemen, died of tetanus twelve days after a gunshot wound of the hand.

FOR THE WEEK ended December 22, the mortality of the city was at an annual rate of 14.73 per 1000. An unusual proportion of the 480 deaths occurred in those over 60 years of age—105 or nearly 22 per cent. Pneumonia caused more than 20 per cent. of the deaths.

BY AN AGREEMENT filed December 20, Thomas J. Kent and wife turn over to Wesley Hospital $25,000 to be used in constructing the hospital building, *contingent* on the payment of a 6 per cent. annuity to the donors, upon whose decease the gift is made absolute to the hospital.

THE FUNERAL SERVICES of Dr. Ephraim Ingals were held at his residence, December 20. Drs. N. S. Davis, Sr., Daniel R. Brower, Walter Haines, F. C. Hotz, Arthur D. Bevan, John Bartlett and J. Nevins Hyde were among the honorary pallbearers, and Drs. J. M. Dodson, J. E. Rhodes and J. Clarence Webster were the physicians among the active pallbearers.

INDIANA.

Dr. Robert C. Rogers, Bloomington, has been appointed acting assistant-surgeon in the army, and has been assigned to duty in the Philippines.

The representative from Daviess county in the state legislature is to introduce a bill providing that only physicians shall be eligible for coroner.

Dr. William N. Wishard, Indianapolis, has been appointed a member of the State Board of Health, vice Dr. P. Henry Jameson, Jr., Indianapolis, resigned.

The contract for the hospital for the incurable insane, which is to be erected in the grounds of the Central Hospital for the Insane, has been awarded, the contract price being $86,728.

Smallpox continues to increase in the state. Dr. James N. Hurty, secretary of the State Board of Health, has received reports of 100 new cases during December. The total number of cases reported since November 1, is 250, and of these 60 occurred in Allen county.

The State Board of Health has considered three points of medical legislation which it is proposed to lay before the general assembly at its coming session: 1, examination of all applicants for license to practice medicine; 2, that county clerks shall keep on file as a matter of record in their offices the certificates which the State Medical Board send to them, on which they issue license to medical practitioners, and 3, the enactment of a law defining the phrase "practice of medicine."

Compulsory treatment of liquor and drug habitués is the object of a bill to be introduced at the coming session of the legislature. The bill provides that any habitual drunkard who is a public charge or likely to become a public charge may, on application to the county judge, either in person or by friend or near kin, making oath to the facts in the case, be sent to an institution in which inebriates are cured. The expense, not to exceed $100, is to be paid by the county of which the beneficiary is a resident. Provision is made for the repayment of the money so expended, by the one benefited giving his note to the county commissioners and paying it as a whole or by installments.

IOWA.

Dr. Levi Loar, Selma, was found guilty on December 14 of performing a criminal operation on a young girl and sentence was deferred.

The Methodist State Hospital, Des Moines, which has been obtained by remodeling the Callanan college, is almost ready for opening.

Agatha Hospital, Clinton, was dedicated December 17. The building is 57x84 feet, three stories in height, and was erected at a cost of about $20,000.

The Iowa College of Physicians and Surgeons, which has been conducted for several years as an auxiliary school to Drake University, Des Moines, has been merged with the university.

The Supreme Court of the state has rendered a decision in the case of the State vs. W. M. Bair, which holds that the law requiring itinerant physicians to secure a license from the state board of medical examiners is constitutional.

The State Board of Medical Examiners met at Des Moines, December 18, and refused to issue a certificate to an osteopath, a graduate of the Still College of Osteopathy, Des Moines. The board has also declined to grant licenses to practice to graduates of schools of the same character at Quincy, Ill., and Kirksville, Mo.

KANSAS.

The physicians of Leavenworth met on December 4 and paid a last tribute to the memory of the late Dr. Jesse W. Brock.

The Hutchinson Board of Health has organized with Dr. Attila M. Hutchinson, chairman, and Dr. Cornelius A. Mann, secretary.

The main building of Stormont Hospital, Topeka, was burned, December 20, with a loss of $10,000. The eight patients who were in the hospital were removed in safety to the Santa Fe Hospital.

Since December physicians in Topeka who have not registered at the city physician's office in compliance with the city ordinance, are liable to a fine of $25. At last report 49 had failed to register.

LOUISIANA.

Dr. Ulysses G. Talley, New Orleans, was fined $25, December 11, for delaying to notify the board of health of a case of smallpox for two days.

Dr. William J. Emmer has been elected president of the reorganized New Iberia board of health, the other medical member being Dr. Alfred Duperier.

It is proposed by the New Orleans Health Department to introduce the Bertillon system of classification of causes of death with the opening of the new year.

The health department of New Orleans asked the city council for $31,000 to carry on its work, but the council cut down the estimate $26,000. The officers say that they will be compelled to discharge the whole sanitary force on January 1 for lack of funds to pay salaries.

The Senses Hospital, New Orleans, elected the following medical staff on December 12: Drs. Ernest E. A. Robin, Richard W. Salter and Timothy A. Duggan assistants in the eye department; Drs. Ambrose B. Gaudet, and H. J. Dupuy, assistant surgeons in the ear, nose and throat departments; Dr. Lieven De Poorter, resident surgeon for one year; Dr. Isadore Dyer, consulting dermatologist, and Dr. Gordon King, surgeon of the ear, nose and throat department.

MAINE.

Lowell Emergency Hospital has been incorporated at Kittery, capital stock not stated, to maintain an emergency hospital and dispensary.

The Sagadahoe Emergency Hospital, Bath, has recently been opened by Dr. Edwin M. Fuller. It contains all necessary equipment for the treatment of emergencies.

The Maine Eye and Ear Infirmary held its annual meeting at Portland, November 26. Dr. Eugene E. Holt, executive surgeon of the institution, reported that 1396 patients had been treated during the fiscal year: 749 in the eye department, 258 in the ear department, and 248 in adjunct clinics.

Dover has now 14 cases of scarlet fever, making in all about 40 cases since the end of September. All except two of the schools have been closed, and the Board of Health has now requested parents to keep their children confined to their own premises for a few weeks, to prevent the spread of the disease.

MARYLAND.

The one hundred and third annual report of the Maryland Hospital for the Insane at Spring Grove, Catonsville, shows that there were 626 patients in the institution during the year and 510 at its close. The superintendent recommends the erection of an industrial building for the female inmates.

Baltimore.

The health commissioner has taken steps for the sale of the old quarantine property, the proceeds from which are to be devoted to the establishment of a hospital for infectious diseases.

A fire took place in the library and laboratory of Dr. Howard A. Kelly on December 16, which damaged books and furniture to the extent of $2000, and the building to the extent of $600.

Baltimore University Hospital was damaged by fire to the extent of $1000 or $1500 by fire shortly after midnight December 18. The patients were all rescued. The books, etc., in the faculty room were destroyed, but the prompt response of the fire department saved the building from entire destruction.

Dr. Walter Wicks has resigned as assistant resident physician at the University of Maryland Lying-in Hospital. Dr. A. C. Hoyt, third assistant on the surgical staff of the Maryland University Hospital, will succeed him and Dr. A. J. Edwards, of Winston, N. C., one of the assistant resident physicians at the hospital last year, will fill Dr. Hoyt's place.

The number of cases of diphtheria reported for December was only about half that of last December. The decrease is attributed by Dr. Bosley to the enforcement of the new law of the department prohibiting public funerals of persons dying from the disease, and the quarantining of infected houses. The people accept the new rule kindly and coöperate with the department in its execution.

MASSACHUSETTS.

Drs. Edward C. Frost and Thomas H. McCarthy have been appointed members of the staff of the Brockton Hospital.

Dr. Joseph B. Howland has succeeded Dr. Archibald J. Ranney as assistant superintendent and physician at the State Almshouse Hospital, Tewkesbury.

The trustees of the Dickinson Hospital, Northampton, have received a donation of from $15,000 to $20,000 for the purpose of building an annex to the hospital 50x30 feet in extent.

The Waltham Board of Health has issued notices to all physicians in its jurisdiction to report at once all cases of typhoid fever. The board has made an investigation to ascertain the source of the infection which has caused so many cases of the disease and has traced it to a farm on the outskirts of the city which supplied milk to many of the families where the disease existed.

MICHIGAN.

Dr. James E. Mead, Detroit, has been appointed acting assistant-surgeon in the army.

License to practice was refused to about forty applicants in Wayne County by the State Board of Registration.

Dr. James H. Kellogg, Battle Creek, was stabbed, but not seriously wounded, by an insane patient, December 22.

A new sanatorium is planned on Manitou Beach, Devil's Lake, twenty miles south of Jackson, by a syndicate of physicians.

A "diplomate" of the notorious Independent Medical College was arrested at Grand Rapids, December 17, on the charge of practicing medicine without having legally registered. It is likely that this will be made a test case.

A well-organized effort is to be made by the enemies of the new medical registration law to attack it at the regular session of the state legislature, and, if possible, to have it wiped off the statute books, or so changed by amendment that much of its present strength will be taken away.

MINNESOTA.

Despite the resolution of the Duluth Board of Education that unvaccinated children be admitted to the public schools, Health Commissioner Robinson, backed by the recent decision of the county court, stands firm and will prevent the attendance of these children at school.

About eight hundred houses at Winona have been under quarantine for smallpox during the past two months, but now from twenty to thirty patients a day are being released and there are not more than 400 cases now on hand. The disease is in a very mild form and only few deaths have occurred.

The state commission appointed to investigate and report on the condition of the state asylums and hospitals for the insane is heartily in favor of the plan now being pursued in the new institutions at Anoka and Hastings. In its report special mention is made of the benefits received by patients in the smaller institutions.

MISSOURI.

Dr. Clarence Loeb, St. Louis, interne at the City Hospital, has resigned and will be associated in practice with Dr. Carl Barck.

Kansas City is to have a new pest-house 200 feet long by 20 feet wide, capable of accommodating 80 patients, and erected at a cost of $2300. On December 14, 17 patients were sent to the isolation hospital.

St. Luke's Hospital, St. Louis, will soon have a new building on Dedmar avenue, where a site has been purchased by the board of trustees. The amount—$100,000—required for the erection of the building has almost all been subscribed.

Dr. George O. Coffin, city physician of Kansas City, is enforcing rigidly the compulsory vaccination ordinance for school-children and has asked the superintendent of public schools to furnish the board of health with lists of all school children with vaccination or no vaccination noted opposite each name.

Dr. L. C. McElwee, secretary of the State Board of Health, has asked for a special appropriation of $25,000 to assist in stamping out variola, which has appeared in 96 out of 114 counties of Missouri. If allowed, vigorous quarantine measures will be established, which will certainly be necessary to prevent the spread of the disease.

NEW JERSEY.

Dr. Thomas N. Gray has been appointed city physician of East Orange, to fill the unexpired term of Dr. Winthrop D. Mitchell.

On Christmas Day, Thomas H. Vinter, executor of the estate of the late Benjamin D. Maxham, presented the New New Jersey Training School for Feeble-Minded Children at Vineland with $100,000.

Owing to smallpox in Jersey City, the president of the State Board of Health issued an order that precautions be taken against its spread. At Lorillard's tobacco factory about 4000 girls were ordered vaccinated.

According to the last report of the Board of Children's Guardians of the State, made to the Governor, the results prove that it has not been hard to get children out of the almshouses and place them in country homes, some free of charge, and others at a rate of $1.50 per week. Last year the legislature appropriated $2000 for this purpose, but this sum has been found insufficient. An appropriation of $6000 will be asked for.

NEW YORK.

The sixteenth annual report of Flushing Hospital shows a large increase in donations and subscriptions, but a larger increase in expenses. The board of estimate and apportionment gave the hospital $7500 in 1899.

Dr. William P. Spratling, medical superintendent of the Craig Colony at Sonyea, gave a dinner at the colony to the members of the Livingston County Board of Supervisors and other invited guests, at which the work of the institution was reviewed by the members of the board of directors, and suggestions made as to opportunities for improvement.

Buffalo.

The new morgue building, when finished, will be one of the most modern and complete of the kind in the United States.

The University of Pennsylvania exhibit, which was one of the most complete in the Paris Exposition education department, will be brought to Buffalo for the Pan-American Exposition.

The board of supervisors has approved the following appropriations for 1901: Buffalo Eye and Ear Infirmary, $2200; Charity Eye and Ear Infirmary, $1800, and German Hospital Dispensary, $1500.

The German Hospital bazaar closed December 16. About $5000 was realized. The hospital will now receive its proper furnishings for wards and private rooms and will be ready for the reception of patients by February 1.

The plans for a cancer hospital in connection with the Buffalo General Hospital have been filed with the bureau of buildings. They provide for a three-story fire-proof building, which will be used as an annex of the Buffalo General Hospital and will be erected near that institution.

Many of the physicians of Erie County, who have long been members of the New York State Medical Association, now propose to organize a county association in affiliation with it and in accordance with its charter and by-laws. A meeting of organization was held on December 20.

New York City.

During the last week of 1900, 23,782 persons were vaccinated in the city, 4500 of whom were inmates of lodging houses.

The board of health decided, December 19, to use the Bertillon system in classifying the causes of death in the Bureau of Records after January 1.

The nurses in charge of the Bellevue Hospital alcoholic ward, who were charged with brutality toward patients, have been suspended pending further investigation and have been held by the grand jury to answer to the charge of manslaughter.

PENNSYLVANIA.

Dr. M. C. Warren has resigned as resident physician at the Reading Hospital and has been succeeded by Dr. Thomas C. Buchanan, Honeybrook.

The committee on public buildings and grounds has reported favorably on the Dalzell bill, appropriating $91,000 for a United States marine-hospital at Pittsburg.

The osteopath at Beaver Falls, "Dr." E. E. Pierce, charged with practicing medicine and surgery without a license, was found guilty and recommended by the jury to the mercy of the court.

Cases of smallpox are still being found in Pittsburg in districts supposed to be free from the disease. On December 25 a case was discovered and the patient taken to the Municipal Hospital. Several other inmates of the room were also removed and taken to the hospital to prevent the spread of the disease. On December 23 an unknown man was found in one of the parks and was taken to the Allegheny General Hospital, where his condition was diagnosed smallpox. He was at once removed to the Municipal Hospital.

Philadelphia.

On December 24, Coroner Dugan held inquests in 24 cases. Verdicts were reached in 21 instances, and 3 have been continued.

The city councils have made the following appropriations for the year 1901: Bureau of health, $207,080; bureau of charities, $576,678, and coroner, $30,300.

By the will of John Betz, recently deceased, $2000 has been given the German Hospital. This hospital has also received $1000 from the Baldwin Locomotive Works.

VIRGINIA.

The Richmond Academy of Medicine and Surgery has adopted appropriate resolutions on the death of the late Dr. Frank S. Harker.

A FIRE in the Virginia Hospital, Richmond, December 10, caused great excitement and alarm, but fortunately only slight damage and no loss of life.

DR. ALBERT S. PRIDDY, Charlottesville, the nominee of the State Medical Society, has been appointed a member of the medical examining board of the state-at-large.

DURING THE YEAR 435 patients were under treatment, on the average, at the Central Hospital for the Insane. The new admissions numbered 192, and of these two-thirds were discharged cured. The board of directors will ask the legislature to make an appropriation sufficient to erect three new female wards.

GENERAL.

ON DECEMBER 11 three Franciscan nuns arrived in Honolulu from New York State. They go to Molokai to work among the lepers.

F. R. DAY, M.D., for many years a member of the Honolulu Board of Health and port physician, resigned his positions in November, and sailed a few days ago for California, on his way to Berlin, where he will take up special medical studies for two years.

LEPROSY IN THE PHILIPPINE ISLANDS.

An appended report to General MacArthur's review of the civil affairs of the Philippines for the last fiscal year gives some rather startling facts regarding the introduction and prevalence of leprosy in the islands. According to the estimates of the Franciscan fathers, says Major Guy L. Edie, the writer of the report, there are no less than 30,000 lepers in the archipelago, the major portion of these being in the Viscayas. Leprosy was introduced in 1633, when the Emperor of Japan sent a ship with 150 lepers to the Philippines to be cared for by the catholic priests. Thus the seed was planted, and, as no practical methods ever were adopted to eradicate the disease or prevent its spread, it has taken firm root. A house-to-house inspection begun last January found more than 100 lepers concealed in dwellings. These were sent to San Lazaro hospital in Manila, but many others escaped into the surrounding country. A commission is now engaged in the work of selecting a suitable island or islands for the purpose of isolating all the lepers in the archipelago.

WAR ON MOSQUITOES.

The United States government has formally recognized the responsibility of the mosquito for the transmission of yellow fever and malarial diseases. This fact is indicated by the issuance of a general order by Major-General Wood at Havana, directed to his post commanders reciting that the chief surgeon of the Department of Cuba has reported that it is now well established that malarial, yellow fever, and filarial infection are transmitted by the bites of mosquitoes. The troops are therefore enjoined to observe carefully two precautions: 1, they are to use mosquito bars in all barracks, hospitals, and field service whenever practicable; they are to destroy the larvæ or young mosquitoes, by the use of petroleum on the waters where they breed. Permanent pools or puddles are to be filled up. To the others are to be applied one ounce of kerosene to each fifteen square feet of water twice a month, which will destroy not only the young, but the old mosquitoes. This does not injure drinking water if drawn from below and not dipped out. Protection is thus secured, according to the order, because the mosquito does not fly far; seeks shelter when the wind blows, and thus each community breeds its own mosquitoes.

ETHER VERSUS CHLOROFORM IN THE TROPICS.

In a report to the surgeon-general of the army on the operative work at the First Reserve Hospital, Manila, P. I., from Sept. 1, 1899, till Feb. 28, 1900, Major W. P. Kendall, surgeon, U. S. A., makes some interesting remarks on the anesthetics used. The cases included 49 of hernia, radical cure; 19 appendicitis; 15 amputations, including two of the hip-joint, one of which was successful; 35 of hemorrhoids; 13 varicoceles; 1 ligature of the external iliac, the femoral and the subclavian in its second part, all successful, and many other operations involving the use of a general anesthetic. "Regarding the choice of anesthetics," says Surgeon Kendall, "there was an apparent difference, not seen in the United States, between ether and chloroform. Whether this would disappear after a longer experience and some modified way of administration or not was not determined; but, as it was, we all grew to be afraid of chloroform, including those whose experience with it had been large, even to the exclusion almost of ether. Heart failures came on rapidly and with great severity, producing death in two chronic appendicitis cases before operation was begun. Besides these there were several cases of suspended animation, while with ether no trouble was observed. Our experience fully confirms that of those who claim that in hot countries the paralyzing effect of chloroform is greater than when used in colder climates, due, probably, to the lack of tone of the motor nervés.

DR. GEORGE M. GOULD AND THE PHILADELPHIA MEDICAL JOURNAL.

The following telegram was received after our note referring to the editorial change in the *Philadelphia Medical Journal* was in type:

PHILADELPHIA, Jan. 1, 1900.

Dr. George H. Simmons: I have just received the first official intimation that my services are no longer desired as editor of the *Philadelphia Medical Journal*, the discharge to take effect immediately. The following editorial, written from private information, was inserted in the issue of December 29, but was not allowed to appear. For considerations of courtesy to many subscribers, I would be pleased to have you publish this hurried word of goodbye to the profession. The extinguished editorial is as follows:

A Personal Word from the Editor.—Just as the last forms are going to press I learn that the present number of the *Philadelphia Medical Journal* will be the last—except as to the original article department of the next issue—for which I shall have editorial responsibility. I am unable to set forth the reasons why the board of trustees no longer wish my services as editor. I am in complete ignorance what such reasons may be. I have heard of no criticism upon their part of my conduct of the journal, and my communication handed to the board in session on December 8, expressing my desire to be retained as editor, has not been answered. To the thousands of friends, to all subscribers who may read these lines, I can only here express my most profound regret at the sudden separation. In the endeavor to aid in establishing a great independent medical journal, utterly free from publishers' influence, from commercial bias and from what is, if possible, still worse, an unprofessional spirit within the profession, I have given my labor and my life, all too freely. What mistakes I may have made I trust may be excused in the belief that they were due to a sincere desire to devote every line of the reading columns to the cause of professional truth and honor.—GEORGE M. GOULD.

FOREIGN.

TYPHOID FEVER occurred, up to September 28, in 15,655 British soldiers in South Africa, with a mortality of 3642.

A NATIONAL association of the medical press has recently been organized in Denmark, Norway, Sweden and Russia in response to the efforts of Dr. R. Blondel, of the French association, who visited the chief cities in these countries.

THE FACULTY of medicine of the University of Edinburgh, according to the *British Medical Journal*, has formally expressed its disapproval of the publication of laudatory certificates from its graduates, in trade advertisements.

THE BUBONIC plague has increased in death-rate in India to the extent of about 50 per cent. during the last month. On the other hand, the famine ceases to be a noticeable factor in mortality; at present only 500,000 require assistance.

THE GERMAN imperial bill lengthening medical study to at least 5 years, meets with the approval of the profession. Berlin has one physician to every 798 of the population, Breslau one to every 775, Halle one to every 735, and Koenigsberg one for every 681.

THE PHYSICIANS who attended the Czar in his illness have just received their rewards. Dr. Hirsch, the famous surgeon, has been given the Order of Alexander-Newski, established by Catherine the Great. Prof. Popoff has been made the Czar's body physician, and Dr. Tichokonoff honorary medical adviser.

THE BRITISH ambassador at Pekin, Sir Claude MacDonald, in his dispatches, refers to the valuable services of Drs. Morrison, Poole and Velde during the late memorable siege. The two latter were in charge of the International Hospital, where 166 cases were treated, 20 of which suffered from illness and the rest from wounds.

THE ROMAN correspondent of the *Lancet* states that a statue of Aesculapius has recently been found in the Roman Forum. The head and part of the right arm are missing. The god is represented with a *volumen* of parchment or paper in the left hand, leaning on a staff around which is coiled a serpent, the symbol of renovation. It was found near the Well of Juturna, reputed for the salubrity of its water.

PROFESSOR CELLI estimates in his new work "La Malaria," an annual mortality in Italy of 15,000 due to malaria, and states that 5,000,000 acres of good soil remains uncultivated. As member of the Italian parliament, he proposes to make it obligatory on landowners and employers to provide every possible agent against the scourge. It is likewise proposed that the government supply the sufferers with pure quinin at a trifle above cost price.

THE DEATH of Professor Podrèze of Charkow is announced, in consequence of a fall from his horse. The eminent Russian surgeon was in his forty-ninth year, and by his will his property, including his private clinic, is bequeathed to the Charkow university to found a clinic for urogenital diseases. Both the physicians attached to the Belgian ambulance dispatched to the Transvaal have died in the last few months.

THE *Wiener Med. Woch.* of December 1 publishes a line from Prof. Stofèlla to the effect that he can not subscribe in all respects to the communication purporting to be from his polyclinic in the two preceding numbers of the *Wochenschrift* on the "Medicinal Treatment of Tuberculosis," by Adolf Hoff, reviewed in THE JOURNAL of Dec. 22, p. 1635. He states that the results of his observation and experience of the treatment described have not always corroborated those of Dr. Hoff.

SANITARY PRECAUTIONS ADOPTED AT OSAKA, JAPAN.

In a letter of Dec. 4, 1900, received by the surgeon-general of the Marine-Hospital Service from the acting asst.-surgeon on duty in the office of the United States consul-general at Yokohama, it is stated that, from June 19 to November 5, 1900, 176,818 rats were destroyed in Osaka. A conference of sanitarians and quarantine officers was at that time sitting in Tokyo, under the order of the Home Department, with the object, if possible, of devising some method of combating the plague, more effective than that hitherto employed.

CANADA.

THE Montreal Health Department has created a department for the inspection of food, with Dr. J. J. McCarrey as superintendent.

DR. OSCAR F. MERCIER has recently been appointed head surgeon of the Notre Dame Hospital, Montreal. He will also be professor of the surgical clinic.

THE Hygienic Committee of Montreal has decided that hereafter three doctors be appointed to sit with the committee. For this they will receive compensation at the rate of $5 per diem.

DR. F. J. SHEPHERD, of Montreal, has just returned from Havana, where he accompanied Sir William Van Horne. He has been elected a vice-president of the Pan-American Medical Congress and president of the section on pathology. He will attend the sessions in February next.

MONTREAL GENERAL HOSPITAL.

This hospital is still in hot water financially. Fifteen thousand dollars is needed as an augmentation fund each year to enable the trustees to carry on the work of the institution. The capacity of this hospital has doubled since 1885. In that year the revenue was $39,308 and the expenditure $40,910. In 1900, the revenue amounted to $67,421, while the expenditure was $81,570, showing a deficit of $14,149. The increase in public subscriptions in that time has only been 25 per cent., but the number of out-door patients has increased from 13,000 in 1885 to 37,000 in the present year.

HOSPITAL FOR SICK CHILDREN, TORONTO.

The twenty-fifth annual report of this institution has just been issued. It covers the work done for the year ending Sept. 30, 1900. The daily average of patients for the previous year was 101½, and for the present year 111½. During the twenty-five years of the hospital's existence over 40,000 children have been treated. The total income for 1900 was $56,116, and the expenditure $36,274. The assets of the hospital now total $215,180, and a nominal liability of $3000 or $4000 is expected to be wiped out by the end of the year. In connection with this institution is the Lakeside Home for Little Children on Toronto Island, which is the largest sanitarium for children in the world.

PHYSICIANS' AND SURGEONS' SUPPLY COMPANY.

A synopsis of a plan for securing better and cheaper drugs for medical practitioners was given in the columns of THE JOURNAL some little time ago, as proposed at a meeting of the Huron Medical Association by Dr. J. R. Shaw, of Clinton, Ont. A charter has been applied for and several members of the profession in Western Ontario and also some few in Toronto are interesting themselves in forming a company to be known as the Physicians' and Surgeons' Supply Company(Limited). The success of the enterprise seems assured from the amount of stock already subscribed. The company is not meant as a combine in any way, but the druggists will be no longer compelled to keep brands of drugs to suit every doctor's whim. A meeting will shortly be held in Toronto for completing organization. Dr. Gunn, of Clinton, is the provisional president.

LONDON LETTER.

THE "EPIDEMIC" OF ARSENICAL POISONING FROM BEER-DRINKING.

The epidemic of arsenical poisoning in Manchester and the surrounding districts, which I have described in my last letter, has caused a wide-spread scare among beer-drinkers throughout England. In London the publicans are posting on their windows notices that they guarantee their beer free from arsenic. Everywhere analyses have been made of the beer sold for consumption, but outside the districts mentioned it has been found uncontaminated. In Manchester alone about 2000 people have been under medical treatment for arsenical peripheral neuritis, to say nothing of milder cases which did not come under observation. The medical officer of health of Manchester, in his report on the epidemic, states that examination of the glucose used in the 20 Manchester breweries revealed arsenic only in that of 5. This glucose all emanated from a single firm and contained arsenic in considerable amount. A number of deaths are alleged to have taken place from arsenical poisoning, but definite proof is lacking in these cases that arsenic was the cause of the fatal result. However, the statistics show that the deaths from peripheral neuritis in Manchester have nearly doubled in 1900. In the first 48 weeks of the years 1897, 1898, 1899, and 1900 the deaths from peripheral neuritis were 11, 17, 18 and 39 respectively. Persons of all ages and both sexes were affected. The youngest patient who suffered from arsenical poisoning from beer-drinking was a little girl of 2, the daughter of a publican who was petted by the customers and given small quantities of beer to drink. Two cases have been recorded in which infants at the breast were poisoned by their mother's milk and recovered when cow's milk was substituted. In one, a woman aged 32, took stout after confinement. After five weeks she felt numbness of the fingers and "jumping" in the feet; her eyes began to smart and her throat became sore. At the same time the child began to vomit after every nursing. It became emaciated and snuffled. Its feet were slightly erythematous. A number of beer-sellers in Manchester are to be prosecuted for selling impure liquor. At Salford, a town near Manchester, it is stated that 6 deaths from drinking arsenical beer have occurred. At Liverpool, a number of cases of arsenical neuritis have been observed, but nothing of the nature of an "epidemic." It is interesting that in one case arsenic was found in the urine. At Chester 8 samples of beer from 7 breweries were examined, and 4 were found to contain arsenic. A number of cases of peripheral neuritis have occurred. Upward of 500 barrels of beer have been destroyed.

THE PARASITOLOGY, ETIOLOGY AND PREVENTION OF MALARIA.

At the Royal Medical and Chirurgical Society Dr. Manson gave a résumé of recent advances on this subject. In 1896-97 the cycle of the malarial parasite to the human body was studied, but the cycle external to the body was not studied. How it was introduced was not known, but since the organism was a blood parasite, some blood-sucking animal was suspected as the means of infection, and there were epidemiological and geographical reasons which pointed to the mosquito. Surgeon-Major Ross, by two or three years indomitable perseverance, conclusively proved the truth of the mosquito theory. He first studied the evolution of the coccidium Schübergii in bird malaria and found there were an endogenous and an exogenous phase. Then he found that the parasite of estivo-autumnal fever was strictly analogous. In the blood of man its evolution was asexual, in the mosquito bisexual. As to the various kinds of mosquito concerned in the conveyance of infection hitherto only anopheles had been implicated in malarial infection, and of this there were 46 known species. In 7 of these the mosquito had been found. Recent investigations have shown that children are specially susceptible to malaria; as many as 70 or 80 per cent. of native children under one year of age contract it. The proportion of infected becomes gradually smaller as age advances until 10 or 12 years is reached. An immunity of some kind seemed to be obtained by the native population. Practically all deaths from malaria occurred in children. The etiology of blackwater fever was still undiscovered. The suggestions that it might be due to a special type of malaria parasite or a parasite the virulence of which was increased by being transmitted through a particular species of mosquito, or a disease sui generis, were all tenable, but they lacked confirmation. As to prophylaxis, four means were available—to avoid the natives, to take quinin, to destroy mosquitoes, and to protect oneself against them. These measures were efficient but not always applicable. Complete protection was perhaps impracticable, but relative protection was valuable and was always possible.

THE DIAGNOSIS OF TREATMENT OF THORACIC ANEURYSM.

At the Medical Society of London Dr. Kingston-Fowler said that the diastolic thud was a sign of the greatest value since it was present in no other condition. Tracheal tugging also indicated aortic aneurysm. The only fallacy was that a new growth almost surrounding the aorta and attached to the trachea might communicate movement to it. The treatment consisted of several factors. Rest and iodid were very efficacious in the relief of pain. If no improvement took place he then added a modified Tufnell diet. Seven ounces of solids and eight of fluids daily were the quantities he had adopted. Lanceraux' method of treatment by gelatin injections he had seen carried out in 3 cases. His experience was not favorable. One of the patients had probably been benefited. Where spasm of the laryngeal muscles existed inhalations of oxygen and the injection of morphia were useful. The prognosis of aneurysm he believed was better than was generally thought. He had known several patients to live for years—one for 13 years, another for 6, and another for 9.

Correspondence.

Origin of Leprosy in Hawaii.

Koloa, Kauai, H. I., Dec. 15., 1900.

To the Editor:—In your issue of November 17 last you say editorially in regard to the origin of leprosy in Hawaii, its protection by the chiefs, etc.:

"The missionary physicians soon learned to recognize it, and one of them, Dr. Dwight Baldwin, it is said, made a report of it, stating the facts of its origin. . . . So long as the Hawaiian monarchy existed, segregation of lepers, though legally demanded, was very imperfectly carried out, owing, it is said, to the interference in high places. . . . The isolation law is an unpopular one with the natives. . . . These data were obtained from the Honolulu *Commercial Advertiser*, whose authority for the main facts is the Rev. Sereno Bishop. . . . *We have not seen this bit of medical history narrated elsewhere.*"

In my article on leprosy, which appeared in the *New York Medical Record* of Jan. 27, 1900, and which was republished in book form several months ago, I said:

"The first leprous man in Hawaii that came to the notice of the general public, was a native man named Naea, who died in 1852, after having been a leper for ten years. His case was reported by Dr. D. D. Baldwin of Lahaina, who, in 1863, discovered that there were 50 lepers in his church. He was a physician as well as a minister. . . . The same year Dr. Hillebrandt, surgeon to the Queen's Hospital, wrote: 'I wish to bring to the public's notice a subject of great importance. . . . It is genuine oriental leprosy. Repeated investigations leave but little doubt in my mind about the contagious character of the disease.' . . . It was called by the natives 'mai pake,' or Chinese disease."

The name "mai alii," not "ma'i alli," as you have it—was never so current as "mai pake," which is the common name for leprosy.

"In 1864 the board of health appointed Mr. Jourdan to take a 'leper census,' and report the same. . . . In January, 1865, the King signed an act providing that certain lands be 'set apart' for 'the isolation and segregation of lepers'; that the board of health or its agents 'be authorized and empowered to cause to be confined all lepers who shall be deemed capable of spreading the disease of leprosy.' . . . With all his talk, Mr. Gibson delayed the good work of segregation, and during the time that he was president of the board of health very little effective work was done. When, later on, Dr. Emerson and others took up the health matters of the country, it was with added difficulty. . . . It was the sad fate of Dr. J. K. Smith to die by the hand of a man whose wife the doctor had ordered to Molokai."

In his official report for 1884, W. M. Gibson, as president of the board of health, says: "But it is difficult to indulge in any reflection on the action of my predecessors because the law requiring segregation has not been carried out with rigor. For what does this law require? That men, women and children shall be torn from their homes [here is a recital of several pathetic cases]. These are some of the experiences and consequences of the law. . . . There should be no alarm in consequence of the temporary presence in the street of a leper; or on account of any ordinary intercourse with sufferers from this disease. . . . According to invariable experience in the observation of this disease in this country and elsewhere, such a sufferer may pass the healthy in the street or frequent the same room with them in the ordinary intercourse of life."

This was a shameless bid for the favor of Kalakaua and his native population. Following the report of Gibson is that of Dr. N. B. Emerson, then—1884—superintendent of the leper settlement, in which he says: "I can not refrain from remarking with great regret the comparatively small number of lepers that have been brought to this settlement from without during the past year, when one considers the great number still at large in the community. I gravely apprehend that this may prove a matter of serious regret to the Hawaiian nation in the future."

In a contribution to the *Philadelphia Medical Journal*, June 2, 1900, I said: "With 4000 lepers scattered over the group, the Hawaiian government began to segregate at first in an inefficient way, retarded often by ignorant and designing officers. . . . In the 34 years during which Hawaii has practiced segregation *the law has been really enforced in the last 14 only.*"

In respect to the first case of leprosy in Hawaii, accounts differ. Sereno Bishop thinks that Kakauonohi, a Hawaii chief, contracted leprosy in China—to which country Hawaiian ships frequently went with sandalwood—and introduced the disease among his people. In a personal interview with ex-Queen Lilioukalani she said she remembered seeing the first leper on Oahu, and that he was a chief who had been to China.

On the other hand, the government "Biennial Report," issued in 1888, says: "Leprosy was first made out to exist in this country about the year 1840, in the person of one Naea, a messenger of the chief, who died in 1852. His case was reported by Rev. D. D. Baldwin, M.D., of Lahaina, in a communication to the minister of the interior, dated May 26, 1864."

E. S. Goodhue, M.D.

Foreign Bodies in the Ear.

Burlington, Ia., Dec. 30, 1900.

To the Editor: I hope that I shall not be accused of trying to make a mountain out of a molehill, but I think that somebody should at least say that your other correspondent on this subject, in The Journal of December 22, page 1643, is preaching just as pernicious a doctrine as that he assumes to condemn.

Personally speaking, after an experience of more than twenty years, with a fairly numerous clientèle, I am unable to recall a single instance where serious permanent damage resulted from retention of foreign bodies in the ear. Several years ago I removed a small piece of slate pencil—case was reported then —which my patient maintained she had poked into the canal when she was a child twenty years before. So far as I could see, it might have safely remained there another twenty years, imbedded as it was in cerumen. Insects whole and in pieces I have extracted after months and years of lodgment.

On the other hand, and this I think is a common experience among aurists, or the books would not so universally speak of it, I have seen no little damage done by ill-advised and ill-devised attempts at extraction—particularly where instrumental delivery was the means adopted.

In a paper which I prepared many years ago for the annual meeting of our State Medical Society I formulated a rule, which I still hold as covering the situation. It was in this wise:

Be sure that the foreign body is in the ear. Then remember that if it is of such consistency and size that it will offer resistance to such a stream of water as you can introduce with a syringe, then the stream of warm water from a syringe, with the nozzle at the highest margin of the meatus, will bring it out. But the foreign body may be such that it offers no resistance—insects like mosquitos whose diaphanous wings will bend before the stream and flatten out against the walls—or the stream of water can not be thrown to the bottom of the canal on account of the swelling of the surrounding tissues or the swelling of the foreign body itself in the event of its being one of the cereals. Then remember that you must have either an experienced technique with ear instruments or you must confine yourself to an attempt to reduce the swelling only.

Personally speaking, again, I do not want any foreign bodies in my ear; but I will take my chances with the ordinary kind rather than the bent probe—or forceps—in the hands of one whose technique I do not thoroughly know. Truly yours,

H. B. Young, M.D.

Marriages.

Luther C. Fischer, M.D., to Miss Lucy Hart, both of Atlanta, Ga., December 12.

Harry W. Lyman, M.D., to Miss Sarah Long, both of St. Louis, Mo., December 12.

Richard Finlay, M.D., to Miss Luella Duer, both of Centreville, S. D., November 29.

Marshall Clinton, M.D., to Miss Alethe Evans, both of Buffalo, N. Y., December 12.

Frank M. Thigpin, M.D., to Miss Stella White, both of Pensacola, Fla., December 12.

Edward E. Maxey, M.D., to Miss Edna Horn, both of Caldwell, Idaho, December 19.

S. Howell Gardner, M.D., Sharpsburg, Md., to Miss Harriett Christian, of Mount Carroll, Ill.

Van E. McFarland, M.D., to Miss Alice Townsend, both of Eagle Pass, Texas, December 12.

G. Hudson Makuen, M.D., Philadelphia, to Mrs. Nancy Dyer, of Chester, Pa., December 20.

William K. Murray, M.D., Chicago, to Miss Gertrude Nelan of Pittsburg, Pa., December 20.

Frederick C. Peterson, M.D., to Miss Sarah M. Bradford, both of Watertown, N. Y., December 31.

William L. Haynes, M.D., Memphis, Tenn., to Miss Clarice Hancock, of Calhoun, Ky., December 18.

Charles P. Martin, M.D., Woodstock, Ala., to Miss Willie Reid, of Russellville, Ala., December 12.

John M. Blair, M.D., Monroe, N. C., to Miss Hannah J. Saunders, of Hagood, S. C., December 27.

Hiram D. Peterson, M.D., Kelley's Island, Ohio, to Miss Mattie E. Cleveland, of Huron, Ohio, December 12.

Maurice M. Scheuer, M.D., Valley Junction, Iowa, to Miss Dora Anderson, of Des Moines, Iowa, December 11.

Deaths and Obituaries.

John J. Garver, M.D., Medical College of Ohio, Cincinnati, 1877, a member of The American Medical Association, Indiana State and Marion County Medical Societies, at his home in Indianapolis, December 13, after an illness of thirteen weeks, aged 55. The Marion County Medical Society has appointed a committee to prepare resolutions on the death of Dr. Garver.

Peter F. Curley, M.D., Albany Medical College, Albany, N. Y., 1883, member of the State Board of Health, State Board of Medical Examiners, and of the local, state and American Medical Association, at his home, Newport, R. I., December 13, from Bright's disease, aged 39.

Aldea A. Glasscock, M.D., Missouri Medical College, St. Louis, 1868, at his home in Ventura, Cal., from cancer of the tongue, after an illness of several months, December 11, aged 62.

Charles J. O'Hagan, M.D., New York Medical College, 1856, a member of the American Medical Association, at his home in Greenville, N. C., from apoplexy, December 18, aged 80.

John Wheeler, M.D., Berkshire Medical College, Pittsfield, Mass., 1852, formerly president of the New Hampshire State Medical Society and a surgeon throughout the Civil War, at his home in Pittsfield, N. H., December 21, after a year's illness from paralysis, aged 72.

Theodore Giddings, M.D., College of Physicians and Surgeons, N. Y., 1868, from apoplexy, at his home in Housatonic, Mass., December 28. He was a member of the American Medical Association, and served in the legislatures of 1886 and 1888.

Richard A. Wise, M.D., Medical College of Virginia, Richmond, 1868, representative from the second district in the present Congress, from Bright's disease, December 21, at Williamsburg, Va., aged 57.

Randolph H. Hall, M.D., Rush Medical College, 1882, president of Illinois Medical College, and a member of the American Medical Association, at his home in Chicago, December 30, aged 56.

Ulysses H. Brown, M.D., a prominent oculist and a member of the New York State Medical Association and The American Medical Association, probably from accident, in New York City, December 28.

Daniel F. Collins, M.D., Bellevue Hospital Medical College, N. Y., 1873, formerly president of the Minnesota State Board of Medical Examiners, at St. Mary's Hospital, West Superior, Wis., December 22.

George H. Elliott, M.D., Denver Medical College, 1882, of New York City, a commissioner of lunacy in New York, at his father's house in Manchester, N. H., December 17, aged 56.

James C. Brownlee, M.D., Bellevue Hospital Medical College, 1880, at the German Hospital, Kansas City, Mo., from pneumonia, after an illness of three weeks, December 19.

Justus M. Townsend, M.D., Berkshire Medical College, 1880, at the German Hospital, Kansas City, Mo., from pneumonia, after an illness of three weeks, December 19.

George W. Greenleaf, M.D., Bowdoin Medical College, Brunswick, Me., 1894, surgeon of the Southern Pacific Railroad, at Yuma, Ariz., at Yuma, December 1, aged 30.

Charles D. Willis, M.D., University of Tennessee, Nashville, 1888, after a lingering illness, from consumption, at his home, Greenville, Tenn., December 13, aged 40.

R. A. Rogers, M.D., Cincinnati College of Medicine and Surgery, 1877, of Welton, Iowa, after an operation for appendicitis, at Davenport, Iowa, December 15.

William H. Jones, M.D., University of Pennsylvania, 1863, U. S. Navy, retired, at Bethlehem, Pa., after several years of illness, from diabetes, December 14, aged 60.

Charles E. Acree, M.D., Vanderbilt University, Nashville, 1892, at his home in Eddyville, Ky., December 23, from uremia, after a long illness, aged 50.

George W. L. Howland, M.D., University of Michigan, Ann Arbor, 1870, from injuries received in a runaway accident, at Flint, Mich., December 27.

Verner L. Chesley, M.D., Dartmouth Medical College, Hanover, N. H., 1899, at his home in West Swanzey, N. H., December 14, from pneumonia.

Alvin Duval, M.D., University of Louisville, 1878, at the home of his mother in Frankfort, Ky., after a long illness, December 15, aged 35.

Levi Oberlin, M.D., who had practiced medicine in Clinton, Ohio, for nearly half a century, at his home in that place, December 8, aged 73.

Andrew J. Smith, M.D., Northwestern University Medical School, 1871, at his home, Wabash, Ind., from apoplexy, December 22, aged 70.

Robert V. R. Montfort, M.D., Albany Medical College, Albany, N. Y., 1856, at his home in Newburg, N. Y., December 18, aged 65.

Mary E. Christy, M.D., Woman's Medical College, Philadelphia, 1894, at her home in New Castle, Pa., December 14, aged 31.

John E. Losee, M.D., Albany Medical College, Albany, N. Y., 1852, at his home in Upper Redhook, N. Y., December 22, aged 74.

Charles L. Gwyn, M.D., University of Maryland, 1860, at his home in Galveston, Tex., December 8, from septicemia, aged 62.

Dean M. Tyler, M.D., University of Michigan, Ann Arbor, 1859, at his home in Ann Arbor, December 11, after a long illness.

John Henry Fruitnight, M.D., Bellevue Hospital Medical College, New York, 1875, at his home in New York, December 18.

Elijah H. Grigg, M.D., Medical College of Virginia, Richmond, 1860, at Sheppards, Buckingham County, Va., December 20.

Frederick Osborn Lloyd, M.D., New York University, 1885, December 19, at Hamilton, N. Y., from consumption, aged 40.

William P. Gatlin, M.D., University of Louisville, Ky., 1888, at his home in McComb City, Miss., December 18, aged 37.

Lewis D. Marcum, M.D., Medical College of Ohio, Cincinnati, 1888, at his home in Portsmouth, Ohio, December 16.

Charles C. Cundall, M.D., New York University, at his residence in Fair Haven, Mass., December 16, aged 66.

William F. Farrell, M.D., New York University, 1886, at his home in New York City, December 23, aged 42.

Edgar H. Sugg, M.D., New York University, 1889, of Snow Hill, N. C., December 9, from dropsy, aged 33.

John A. Sneed, M.D., Tulane University, New Orleans, 1879, at Fairfield, Texas, December 16.

Walter S. Bunn, M.D., Columbus Medical College, Columbus, Ohio, 1884, at Lawrence, Kas.

Books and Pamphlets.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

BOOKS.

Hand Atlas of Human Anatomy. By Werner Spalteholz, Extraordinary Professor of Anatomy in the University and Custodian of the Anatomical Museum at Leipzig, With the Advice of Wilhelm His, *Professor of Anatomy in the University of Leipzig.* Translated from the Third German Edition by Lewellys F. Barker, Professor of Anatomy in the University of Chicago. With a Preface by Franklin P. Mall, Professor of Anatomy in the Johns Hopkins University at Baltimore. Vol. I. Bones, Joints, Ligaments. Paper; pp. 235. Price, $3.50. Leipzig: S. Hirzel. New York: G. E. Stechert. 1900.

Obstetrics. A Manual for Students and Practitioners. By David James Evans, M. D., Lecturer on Obstetrics and Diseases of Infancy, McGill University. Series Edited by Bern B. Gallaudet, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. Illustrated with 149 Engravings. Cloth; pp. 430. Price, $1.75. Philadelphia and New York: Lea Brothers & Co.

Malaria According to the New Researches. By Professor Angelo Celli, Director of the Institute of Hygiene, University of Rome. Translated from the Second Italian Edition by John Joseph Eyre, M.R.C.P., L.R.C.S., Ire., D.P.H., Cambridge. With an Introduction by Dr. Patrick Manson, Medical Adviser to the Colonial Office. With Maps and Illustrations. Cloth; pp. 275. Price, $3.00. New York and Bombay: Longmans, Green & Co. 1900.

Disinfection and Disinfectants. A Treatise upon the Best Known Disinfectants. Their Use in the Destruction of Disease Germs, with Special Instruction for Their Application in the Commonly Recognized Infectious and Contagious Diseases. By H. M. Bracken, M.D., Professor of Materia Medica and Therapeutics, *University of Minnesota. Cloth; pp. 85. Price, $1.00.* Chicago: Trade Periodical Co.

The Care of the Consumptive. A Consideration of the Scientific Use of Natural Therapeutic Agencies in the Prevention and Cure of Consumption; Together with a Chapter on Colorado as a Resort for Invalids. By Charles Fox Gardiner, M.D., Non-Resident Fellow of the New York Academy of Medicine. Cloth; pp. 182. Price, $1.25. New York and London: G. P. Putnam's Sons. 1900.

A Practical Treatise on Medical Diagnosis for Students and Physicians. By John H. Musser, M.D., *Professor of Clinical* Medicine in the University of Pennsylvania. Fourth Edition, Revised and Enlarged. Illustrated with 250 Wood-cuts and 49 Colored Plates. Cloth; pp. 1105. Price, $6.00. Philadelphia and New York: Lea Brothers & Co. 1900.

Text-Book of Physiology. Edited by E. A. Schäfer, LL.D., F.R.S., Professor of Physiology, University of Edinburgh. Vol. II. Cloth; pp. 1365. Price, $10.00. Edinburgh and London: Young J. Pentland. New York: MacMillan Co. 1900.

Terapia delle Malattie del L'Infanzia ad uso di Medici e Studenti del Dott. Prof. Cesare Gattaneo. Libero docente di Clinical Pediatrica alla R. Universita di Parma. Cloth; pp. 507. Milano: Ulrico Hoepli. 1901.

Proceedings of the Kansas Medical Society. Thirty-fourth Annual Meeting, Topeka, Kan., Wednesday, Thursday and Friday, May 2, 3 and 4, 1900. Cloth; pp. 226. Topeka, Kan.: A. D. Bauer Printing Co. 1900.

The Australasian Medical Directory and Handbook. Edited and Compiled by Ludwig Bruck. Fifth edition. Corrected up to August, 1900. Cloth; pp. 221. Sydney: L. Bruck. London: Bailliere, Tindall & Cox. 1900.

Ethical Marriage. A Discussion of the Relations of Sex, from the Standpoint of Social Duty. By Delos F. Wilcox, Ph.D. Cloth; pp. 231. Price, $1.25. Ann Arbor, Mich.: Wood-Allen Publishing Company.

The Curious Case of Gen. Delaney Smythe. By W. H. Gardner, M.D. Cloth; pp. 204. London, New York and Montreal: The Abbey Press.

Transactions of the Texas State Medical Association. Thirty-second Annual Session held at Waco, Texas, April 24, 25, 26 and 27, 1900. Cloth; pp. 400. Austin, Texas: Von Boeckmann, Schutze & Co. 1900.

Report of the Commissioner of Education for the Year 1898-99. Vol. I. Cloth; pp. 1248. Washington: Government Printing Office. 1900.

The Practice of Medicine. A Text-Book for Practitioners and Students, with Special Reference to Diagnosis and Treatment. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania and Physician to the Hospital of the University. Secon[illegible] Revised and in Parts. Rewritten. With 127 [illegible] Colored Plates. Cloth. Pp. 1222. Price, [illegible] P. Blakiston's Son & Co. 1900.

Therapeutics: Its Principles and Practice. By Horatio C. Wood, M.D., LL.D. (Lafayette-Yale), Professor of Materia Medica and Therapeutics, and Clinical Professor of Diseases of the Nervous System, in the University of Pennsylvania. Eleventh Edition. Remodeled and in Greater Part Rewritten. By Horatio C. Wood, and Horatio C. Wood, Jr., M.D., Demonstrator of Pharmacodynamics in the University of Pennsylvania. Cloth. Pp. 850. Price, $5.00. Philadelphia and London: J. B. Lippincott Co. 1900.

The Medical Examination for Life Insurance and Its Associated Clinical Methods, with Chapters on the Insurance of Substandard Lives and Accident Insurance. By Charles Lyman Greene, M.D., St. Paul, *Clinical Professor of Medicine and Physical* Diagnosis in the University of Minnesota. With 99 Illustrations. *Cloth. Pp. 426. Price, $4.00. Philadelphia: P. Blakiston's Son* & Co. 1900.

Quiz—Compends. No. 16. A Compend of Diseases of the Skin. By Jay F. Schamberg, A.B., M.D., Professor of Diseases of the Skin, Philadelphia Polyclinic and College for Graduates in Medicine. Second Edition, Revised and Enlarged. With 105 Illustrations. Cloth. Pp. 291. Price, $0.80. Philadelphia: P. Blakiston's Son & Co. 1900.

Proceedings of the Eighth Annual Meeting of the Association of Military Surgeons of the United States, Held at Kansas City, Missouri, September 27, 28 and 29, 1900. Cloth. Pp. 376. Columbus, Ohio: Berlin Printing Co. 1900.

The Treatment of Fractures. By W. L. Estes, A.M., M.D., Director and Physician and Surgeon-in-Chief of St. Luke's Hospital, South Bethlehem, Pa. Cloth. Pp. 216. Price, $2.00. New York: International Journal of Surgery Co.

Diseases of the Nervous System. A Text-book for Students and Practitioners of Medicine. By H. Oppenheim, M.D., Professor at the University at Berlin. Authorized Translation by Edward E. Mayer, A.M., M.D., Pittsburg, Pa. First American from the Second Revised and Enlarged German Edition. With 293 Illustrations. Cloth. Pp. 900. Price, $5.00. Philadelphia and London: J. B. Lippincott Co. 1900.

Thomas [illegible] By Joseph Frank Payne, M.D., Oxon. Fellow and [illegible] of the Royal College of Physicians. Cloth. P[illegible] New York: Longmans, Green & Co. 1900.

Transactions of the Second Annual Session of the Tri-State Medical Association of the Carolinas and Virginia, Held at The Charleston Hotel, Charleston, S. C., February 20, 21 and 22, 1900. Cloth. Pp. 315. Richmond, Va.: Williams Printing Co. 1900.

Proceedings of the Nebraska State Medical Society. Thirty-second Annual Session. 1900. Cloth. Pp. 356. Published by the Society.

Appendicitis and Its Surgical Treatment. With a Report of One Hundred and Eighty-five Cases. By Herman Mynter, M.D. (Copenhagen), Professor of Clinical Surgery in University of Buffalo, Buffalo, N. Y. Third Revised Edition. Cloth. Pp. 231. Price, $2.00. Philadelphia: J. B. Lippincott Co. 1900.

Sexual Debility in Man. By F. R. Sturgis, M.D., Formerly Clinical Professor of Venereal Diseases in the Medical Department of the University of the City of New York. Cloth. Pp. 432. Price, $3.00. New York: E. B. Treat & Co. 1900.

Orthopedic Surgery. A Handbook. By Charles Bell Keetley, F.R.C.S., Surgeon to the West London Hospital. Cloth. Pp. 539. Price, $5.50 net. London: Smith, Elder & Co. 1900.

Transactions of the State Medical Society of Wisconsin. For the Year 1900. Constitution and By-laws and List of Members. Cloth. Pp. 480. Madison, Wis. M. J. Cantwell. 1900.

PAMPHLETS.

A New Nasal Splint. Retinitis Albuminurica with Report of Cases. By Francis W. Alter, Toledo, Ohio. Reprints.

Cerebral Abscess Following Chronic Otitis Media Purulenta—Operation—Recovery. By William H. Dudley, M.D., Easton, Pa.

A Paper on English Spelling. By George D. Broomell. Paper: pp. 27. Price, $0.10. Chicago: Ben Franklin Company. 1900.

Iritis. By J. H. McCassy, M.A., M.D., Dayton, Ohio. Reprinted from Medical News.

Maladministration of Public Medical Affairs in the State of Texas. By H. A. West, M.D., Galveston, Texas. Reprinted from Texas Medical Journal.

Medical Education. The Deep Fascia. By Dr. Edmund W. Holmes. Reprints.

Proceedings and Addresses of the Fourth General Conference of the Health Officers in Michigan, Grand Rapids, Mich., Oct. 26 and 27, 1899. Paper; pp. 181. Lansing, Mich.: Wynkoop, Hallenbeck, Crawford Co.

Report of a Case of Nephrectomy for Pyonephrosis Due to Impaction of a Stone in the Bladder. Report of Two Cases of Epithelioma of the Vulva. By Charles P. Noble, M.D., Philadelphia. Reprints.

Report of the Committee on a State Board of Health. Texas State Medical Association, Waco, Texas, April 26, 1900. Reprintetd from Texas Medical Journal and Transactions of Texas Medical Association.

Roentgen Rays in the Treatment of Skin Diseases and for the Removal of Hair. The Present Treatment of Syphilis. By Wm. Allen Pusey, A.M., M.D., Chicago. Reprints.

Scarlet Fever. (Scarlatina.) Its Prevention, Restriction and Suppression. Issued by the Illinois State Board of Health, 1900. Paper; pp. 18 Springfield, Ill.: Phillips Bros. 1900.

Superheated Dry Air in the Treatment of Rheumatic and Alliec [illegible] ...mas E. Satterthwaite, M.D., New York ([illegible] ...edical Review of Reviews.

The [illegible] ...n Anticipation of Surgical Shock as a [illegible] Hemothorax from Stab-Wound of an Intercostal Arti [illegible] A Contribution to the Study of [illegible] Viscera—A Modified Murphy Bu [illegible], A.M., M.D., Philadelphia. Reprints.

The Materia Medica of Pichi. By Noah E. Aronstam, M.D., Ph.G., Detroit, Mich. Reprinted from Physician and Surgeon.

The Need of Hospitals and Training Schools for Colored People of the South. By Daniel H. Williams, M.D., Chicago. Reprinte [illegible]

The [illegible] ...acation Schools. By Helen C [illegible] R. I. Reprinted from Bulletin [illegible]

The Prevention of Post-Operative Hernia. By C. U. Collins, M.D., Peoria, Ill. Reprinted from Peoria Medical Journal.

The Public Health and the State's Duty to Protect It. By M. M. Smith, M.D., Austin, Texas. Reprinted from Texas Medical Journal.

Tenth Annual Report of the Eye, Ear, Nose and Throat Hospital of New Orleans, La. Jan. 1, 1899 to Dec. 31, 1899. Paper: pp. 54. New Orleans: L. Graham & Son. 1900.

The Use of Thermol in Typhoid Fever. By George B. Miller, M.D., Philadelphia. Reprinted from Philadelphia Medical Journal.

Abstract on the Report on the Origin and Spread of Typhoid Fever in U. S. Military Camps During the Spanish War of 1898 By Walter Reed, Major an [illegible] . S. Army; Victor C. Vaughan, Major and Di [illegible]; and Edward O. Shakespeare, Major and Br [illegible] Paper. Pp. 239. Washington: Government [illegible]

Clinical Report. A P [illegible] Appendix Simulating Tubo-Ovarian Abscess. The Prevention of Puerperal Septicemia. By H. G. Wetherill, Denver, Colo. Reprints.

Injuries of the Eyelids and Eyeballs. By L. Webster Fox, A.M., M.D., Philadelphia, Pa. Reprinted from International Clinics.

Locomotor Ataxia. By Hugh T. Patrick, M.D., Chicago. Reprinted from International Clinics.

Report of the Results of the Execution of the Law, "Regulating the Practice of Medicine and Surgery in the State," by the Medical Examining Boards, from its Passage, April 18, 1895, to December 15, 1899. Paper. Pp. 25. Dover, Del.: The Index Print.

The Good Nurse. By James H. McBride, M.D., Los Angeles, Cal. Reprinted from Chicago Medical Recorder.

Transactions of the Eleventh Annual Meeting of the Medical Society of the State of Washington. Held at Spokane, May 8 and 9, 1900. Paper. Pp. 180. Spokane, Wash.: Shaw and Borden Co. 1900.

Transactions of the Mississippi State Medical Association, at its Thirty-third Annual Session held at Meridian, April 18 and 19, and May 16, 17 and 18, 1900, with the Roll of Members and Re [illegible] d by the Association. Paper. Pp [illegible] Herald. 1900.

[illegible] ...rgeon. By Dudley S. Reynolc [illegible] ...rinted from N. Y. Med. Jour.

[illegible] Shape and Proportion Devised a Century and a Half Ago, by Dr. Thomas Young, of Edinburgh, and the Knives Which Preceded It. By Alvin A. Hubbell, M.D., Buffalo, N. Y. Reprinted from the Ophthalmic Record.

Is Internal Antisepsis Possible. By Thomas E. Satterthwaite, M.D., New York. Reprinted from Post-Graduate.

[illegible] ...nical Lecture Delivered at the Chicago [illegible] ...atrick, M.D., Chicago. Reprinted from [illegible]

[illegible] By S. Stevens, M.D., Dowagiac, Mich. Reprinted from The Plexus.

Roentgen Rays in the Treatment of Skin Diseases and for the Removal of Hair. By William Allen Pusey, A.M., M.D., Chicago. Reprinted from Chicago Medical Recorder.

[illegible] ...fection as Performed by the Chicago [illegible] By Charles W. Behm, M.D., Chief Medical [illegible] Infection. [illegible]

[illegible] Gastric [illegible] ...J. Rodman. [illegible] from Philadelphia Medical Journal.

Methods in the Diagnosis of Diseases of the Stomach. By Charles D. Aaron, M.D., Detroit. Reprinted from Medical Standard.

Proceedings of the Pathological Society of Philadelphia. November, 1900. Paper. Pp. 20. Published by the Society. 1900.

Physiology of Sexualism. By N. E. Aronstam, M.D., Ph.G., Detroit. Reprinted from Medical Age.

Report of the Surgeon-General, U. S. Navy, Chief of the Bureau of Medicine and Surgery to the Secretary of the Navy. 1900. Paper. Pp. 267. Washington: Government Printing Office. 1900.

Seven Brief Medical Papers. Floating Spleen. Fatty Cirrhosis of the Liver. Amyloid Degeneration of the Kidney. Typhoid Fever with Complications. Diagnosis in the Light of Necropsy. Empyema. Infectious Diseases. By Stephen Smith Burt, A.M., M.D., New York. Reprinted from the Post-Graduate.

The Treatment of Noma. By G. M. West, M.D., Eufaula, I. T. Reprinted from the Therapeutic Gazette.

The Vectis. By John Bartlett, M.D., Chicago. Reprinted from Clinical Review.

TRADE PAMPHLETS.

Daniel's Concentrated Tincture Passiflora Incarnata. By John B. Daniel. Atlanta, Ga.

Anusul Supposito [illegible]

Phenol-Bismuth. T [illegible]

Ungventum Crede. [illegible]

[illegible] ...fection. Helthin. [illegible]

Medicinal Soaps. U [illegible]

Diabetes Mellitus. Its Detection and Successful Treatment. By Heinrich Stern, Ph.D., M.D., New York. Chas. Roome Parmele Co., New York.

The Walter Baker Sanitarium. Paper. Boston. Mass.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. Volume IV. December, 1900. Diseases of Digestive Tract and Allied Organs, the Liver, Pancreas, and Peritoneum—Genito-Urinary Disea [illegible] tions, Surgery [illegible] the Kidneys— [illegible] dum. Cloth. [illegible] Lea Brothers & Co. 1900.

Students' Edition, A Practical Treatise on Materia Medica and [illegible] ...eference to the Clinical Application [illegible] ...naker, M.D., LL.D., Professor of Matc [illegible] ...erapeutics, and Clinical Medicine, and [illegible] of the Skin in the Medico-Chirurgical College of Philadelphia. Fifth Edition. Thoroughly Revised. Cloth. Pp. 770. $4.00 net. Philadelphia, New York and Chicago: F. A. Davis Co. 1900.

Anomalies of Refraction and of the Muscles of the Eye. By Flavel B. Tiffany, A.M., M.D., Professor of Ophthalmology and Otology of the University Medical College of Kansas City, Mo. Author's Fourth Edition. Cloth. Pp. 307. Price, $2.40. Kansas City, Mo.: Hudson-Ki [illegible]).

The Surgical [illegible] and Pathologic Disfigurements of [illegible] Mutter Lectures of the College of Physicia [illegible] ...or 1900. By John B. Roberts, A.M., M.D., [illegible] in the Philadelphia Polyclinic. Cloth. Pp [illegible] Philadelphia: Philadelphia Medical Publishing Co. 1900.

An Essay on the Reduction of Obesity. With Special Reference to the Use of Granular Effervescing Salts of Vichy and Kissingen. By William T. Cathell, A.M., M.D., Baltimore. John Wyeth & Bro., Philadelphia.

Catalogue of Autograph Collections. The Property of William Ebbitt Mitchell, 251 West 43rd St., New York. Now offered for sale.

Microscopical Reproductions of the Blood and Bacteria. Directions for Preparing Specimens for Diagnostic Purposes, etc. Reed and Carnrick, Jersey City, N. J.

Miscellany.

Toxicity of Expired Air.—Experiments at the Hygienic Institute at Prague seemed to indicate that the air expelled from the lungs of guinea-pigs and dogs contained some toxic substance, in addition to the carbon dioxid, as the animals rapidly succumbed to its action. But further research demonstrated that the toxic action was due to the ammonia in the putrefying excreta in the cages. Formanek concludes from these experiments that the syncope and discomfort experienced in insufficiently ventilated or crowded rooms, are not due to any special toxins expired but are merely reflex disturbances in sensitive individuals, caused by the heat or disgust at the odors emanating from the crowd. Ammonia can be incriminated to a slight extent and carbon dioxid still less.—*Arch f. Hyg.* xxxviii, 1.

Glycosuria Consecutive to Extirpation of Pituitary Gland.—Extensive experimental research on dogs has demonstrated that partial or total resection of the cerebral hypophysis produces besides the inevitable cachexia, a pronounced and persistent glycosuria, accompanied by polyuria. Caselli observes in his preliminary communication to the *Rivista Sperim. di Freniatria* xxvi, 1, that this result agrees with the clinical observation that glycosuria is frequent in case of a tumor in the pituitary gland with or without acromegaly.

Eucain Versus Cocain for Medullary Narcosis.—F. Legueu, professor agrégé at Paris, used cocain exclusively in forty-eight operations performed under intraspinal anesthesia, and then substituted eucain in the succeeding nine. His experience with the latter was very favorable. He has long employed it for local anesthesia in preference to cocain, on account of its lesser toxicity and the possibility of effectively sterilizing it by the usual methods. Whether eucain or cocain, he always uses a 2 per cent. solution. The average dose of cocain was 2 cgm., i.e., 1 c.c. of a 2 per cent. solution, but in a few cases he increased this amount to 3 cgm. and in others 1 cgm. proved sufficient. Dr. F. Engelmann reports an unfortunate experience with eucain B. in his own person, in a communication to the *Muench. Méd. Woch.* of October 30. He had 1 cgm. of eucain injected into the lumbar spinal cavity by a colleague by the usual technique; no anesthesia was induced, but symptoms of intoxication appeared in a few hours, severe sacral pains, headache, nausea and vomiting, eight to ten chills and slight temperature. The headache was unbearable at first. and persisted severe for eight to ten days, although not interfering with his duties. He found no relief from antineuralgics, but the headache ceased in the dorsal decubitus.

Societies.

Medical Association of Nevada, Reno, Jan. 7, 1901.
Pan-American Medical Congress, Havana, Cuba, Feb. 4, 1901.
Tri-State Medical Association of the Carolinas and Virginia, Richmond, Va., Feb. 26, 1901.

The Salt Lake (Utah) Medical Society, at its meeting, December 10, elected Dr. Ira A. E. Lyons, president; Dr. Alexander C. Ewing, vice-president; Dr. Murray R. Stewart, secretary, and Dr. Augustus C. Behle, treasurer.

The Columbus (Ohio) Academy of Medicine held its annual meeting, December 17, at which the following officers were elected: Dr. James C. Lawrence, president; Dr. Hugh Hendrixson, vice-president; Dr. John L. Gordon, secretary, and Dr. Francis W. Blake, treasurer.

The Jefferson County (Ala.) Medical Society held its last meeting for the year, at Birmingham, December 17, at which the following officers were elected: Dr. W. E. B. Davis, president; Dr. Edward P. Riggs, censor, and Dr. James M. Mason, health officer.

The Butler County (Ohio) Medical Society, at its meeting at Hamilton, December 12, elected Dr. August Schumacher, Hamilton, president; Dr. James E. Torrence, Oxford, vice-president; Dr. Edward H. French, Hamilton, secretary, and Dr. Francis M. Fitton, Hamilton, treasurer.

The Central District Medical Association of Iowa held its twenty-sixth semi-annual meeting at Boone, December 18, and elected Dr. David N. De Tar, Boone, president; Dr. Josiah D. McVey, Lake City, vice-president, and Dr. George H. Stranger, Boone, secretary and treasurer.

The New York Academy of Medicine held its annual election of officers, December 20, with the following result: Dr. Robert F. Weir, president; Dr. Charles M. Dana, vice-president; Dr. John H. Huddleston, corrsponding secretary, and Dr. Louis F. Bishop, recording secretary.

The South Texas Medical Association held its semi-annual meeting at Houston and elected Dr. Robert W. Knox, Houston, president; Drs. Walter Shropshire of Yoakum, and George W. Emory of Anderson, vice-presidents, and Dr. D. Stuart Wier, Houston, secretary and treasurer.

The Lorain County (Ohio) Medical Society, at its meeting held December 18, elected Dr. William C. Bunce, Oberlin, president; Dr. Ewan Cameron, Lorain, vice-president; Dr. A. M. Webster, Lorain, secretary, and Dr. Frank Young, Lorain, treasurer and librarian.

The Hawaiian Medical Association, at a recent meeting, changed its name to "The Hawaiian Territorial Medical Society." and elected the following officers: Dr. W. E. Taylor, president; Dr. H. C. Sloggett, vice-president, and Dr. A. G. Hodgins, secretary and treasurer.

The Montgomery County (Ohio) Medical Society met for its annual session at Dayton, December 7, and elected Dr. John S. Beck, president; Dr. Francis C. Gray, vice-president! Dr. Horace Bonner, secretary; Dr. David C. Lichilter, treasurer, and Dr. Duff W. Greene, censor, all of Dayton.

The Medical and Surgical Society of Montgomery County (Ala.) met at Montgomery, December 15, and elected Dr. Robert Goldthwaite, president; Dr. Frank H. M. McConnico, vice-president; Dr. Charles T. Pallard, secretary; Dr. Shirley Bragg, treasurer and county health officer, and Dr. Glenn Andrews, censor.

The Berrien County (Mich.) Medical Society met for its third annual session at Benton Harbor, December 13, and elected Dr. Henry V. Fulton, Benton Harbor, president; Dr. Robert Henderson, Buchanan, vice-president; Dr. Wakeman Ryno, Benton Harbor, secretary, and Dr. Hattie G. Schwendener, St. Joseph, treasurer.

The Northwest Arkansas Medical Society convened at Siloam Springs, December 11, and elected Dr. Thomas W. Blackburn, Boonsboro, president, and Dr. Joseph T. Clegg, Siloam Springs, secretary. Prairie Grove was selected as the place for the next semi-annual meeting in June, 1901.

The Tennessee Valley Medical Society met for organization at Huntsville, Ala., December 19, and elected Dr. Felix E. Baldridge, Huntsville, president; Drs. Thaddeus A. Casey, Albertville, and F. F. Pettey, Decatur, vice-presidents; Dr. Thomas E. Dryer, Huntsville, secretary, and Dr. Edgar Rand, *Leighton, treasurer.*

The Northwestern Ohio Medical Association, held its annual meeting at Toledo, December 14. The following officers were elected: Dr. John A. Wilkins, Delta, president; Drs. Harbon B. Gibbon, Tiffin, and Manford M. Hixson, Continental, vice-presidents; Drs. Joseph P. Baker, Findlay, secretary, and Theodore M. Gehrett, treasurer, were re-elected.

The North Texas Medical Association, which held its semi-annual session at Sherman, December 11, 12 and 13, decided to hold its next meeting in Paris. Dr. Robert F. Miller, Sherman, was elected president; Dr. Jesse B. Shelmire, Dallas, vice-president; Dr. Stephen A. D. Moore, Van Alstyne, secretary, and Dr. Carey A. Gray, Bonham, treasurer.

The Somerville (Mass.) Medical Society, at its annual meeting held December 13, voted to tender its cöoperation to the board of health in the proposed medical inspection. The following officers were elected: Dr. George A. Miles, president; Dr. Frederick G. Smith, vice-president, and Dr. Arthur R. Perry, secretary and treasurer.

The Morgan County (Ill.) Medical Society met at Jacksonville, December 13. The following officers were elected: Dr. John G. Franken, Chandlerville, president; Dr. Alonzo F. Burnam, Jacksonville, vice-president; Dr. E. F. Baker, Jacksonville, secretary; Dr. Edward Bowe, Jacksonville, treasurer, and Dr. William C. Cole, Jacksonville, librarian.

The Seaboard Medical Association of Virginia and North Carolina, held its annual meeting at Weldon, N. C., December 14 and 15. Norfolk, Va., was selected as the next place of meeting. Dr. J. Emmett Sebrell, Courtland, Va., was elected president; Drs. H. Turner Bass, Tarboro, N. C., Emerson Land, Oceana, Va., Joel Crawford, Yale, Va., and Albert R. Anderson, Wilson, N. C., vice-presidents; Dr. Isreal Brown, Norfolk, Va., treasurer; Dr. John R. Bagby, Newport News, Va., secretary, and Dr. A. K. Taylor, Washington, N. C., orator.

The Salt Lake County (Utah) Medical Society met at Salt Lake City, December 10, and discussed vaccination. The general consensus of opinion was that absolute immunity from smallpox, by vaccination, could be secured only by revaccination every time there was an epidemic. The following officers were then elected: Dr. Ira C. E. Lyons, president; Dr. Alexander C. Ewing, vice-president; Dr. Murray R. Stewart, secretary, and Dr. Archibald A. Kerr, treasurer.

The Calhoun County (Mich.) Medical Society, at its annual meeting held December 18, at Battle Creek adopted a resolution that it should be considered a violation of medical ethics for a physician to allow his name to be published in connection with reports of accidents or cases treated. The following officers were elected: Dr. Leon M. Gillette, Battle Creek, president; Drs. George C. Hafford, Albion, and John C. Brown, Burlington, vice-presidents; Dr. William H. Haughey, Battle Creek, secretary; Dr. Richard M. Olin, Battle Creek, treasurer.

The Maine Academy of Medicine and Science held its forty-second stated meeting at Portland, December 10, at which the following resolution was adopted: *Resolved*, That we, the members of the Maine Academy of Medicine and Science, recognizing the necessity of a public laboratory in this state, whereby contagious and infectious diseases can be studied and the public protected, do recommend and advise the establishment of such an institution and that legislation be enacted to that effect. *Resolved*, That this resolution be forwarded to the secretary of the State Board of Health, after being signed by our president and secretary. The election of officers resulted as follows: Dr. Samuel J. Bassford, Biddeford, president; Dr. Daniel Driscoll, Portland, recording secretary; Dr. Addison S. Thayer, Portland, corresponding secretary, and Dr. Herbert F. Twitchell, Portland, treasurer.

The Detroit Medical Society held a "centenary meeting" December 19, at which a symposium on the medical progress of the nineteenth century was offered. Dr. Victor C. Vaughan, Ann Arbor, who spoke on the progress of medicine, acknowledged the great advances made that have banished the fear of smallpox, reduced the death-rate in typhoid fever from 30 to 7 per cent., discovered the causes and partial cures for tuberculosis, anthrax, cholera and the like. He said that isolation and antiseptics had more to do with reducing the danger from communicable diseases than all other agencies. He predicted that the day is coming when science will be so absolute that no man will pollute the water we drink, the food we eat, the air we breathe and the floors and pavements on which we live and walk, and that disease in large part will be utterly stamped out. Dr. Nathaniel W. Webber spoke of "The Old Doctors of Detroit and Michigan," and Dr. Henry O. Walker discussed the progress of surgery, accrediting to American surgeons the greatest and most wonderful advances of the century. Frank T. Lodge read a paper entitled "A Half Century of Medical Jurisprudence," in which he condemned the existing practice of buying expert witnesses in cases at law. He suggested possible remedies: That experts be named by the court in every case; that one be selected by each party to the case and a third by the court; that a standing commission be appointed, from which experts could be drawn; that there be an auxiliary panel of experts, a part of the jurors to be drawn from them; that there be an abolition of hypothetical interrogations; that there be a severe restriction in the way of examinations for eligibility as experts and that the payment of experts be made out of the public treasury.

THIRD PAN-AMERICAN MEDICAL CONGRESS.

SECTION OF OBSTETRICS.

Dr. E. Gustave Zinke, 13 Garfield Place, Cincinnati, Ohio, Secretary. Titles and authors of papers received up to date: 1. The Toxicity of the Urine in Pregnancy and Its Relation to Puerperal Convulsions; by Dr. John Milton Duff, Pittsburg,. Pa. 2. Face Presentation; by Dr. J. A. Lyons, Chicago. 3. The Management of a Myomatous Pregnant Uterus; by Dr. W. H. Wathen, Louisville, Ky. 4. Experimental Investigation on Puerperal Sepsis; by Dr. F. Gaertner, Saginaw, Mich. 5. The Simultaneous Occurrence of Extra- and Intra-Uterine Pregnancy and a Tabulated Record of 62 Cases Collected from 1708-1901; by Dr. E. Gustav Zinke, Cincinnati, Ohio. 6. Cholemia and Hemorrhage; by Dr. David Tod Gilliam, Columbus, Ohio. 7. Renal Insufficiency in Relation to Women; by Dr. Jas. T. Jelks, Hot Springs, Ark. 8. Clinical Consideration Relating to Cancer of the Uterus; by Dr. A. T. Currier, New York City. 9. The Medication and Treatment of Uterine Fibroids; by Dr. W. B. Chase, New York City.

Philadelphia College of Physicians.

Meeting November 20, 1900.

DR. S. D. RISLEY in the chair.

ORBITAL ABSCESS.

DR. S. D. RISLEY exhibited a case of abscess of the orbit following injury which was associated with an opening in the ethmoid cells caused by a blow from a piece of metal on the nasal aspect of the upper eye-lid. Cold compresses were applied, but later fluctuation occurred, and after a deep incision was made a large amount of pus was evacuated. The cavity was syringed with peroxid of hydrogen and saturated solution of boracic acid. It was found that the fluid passed freely into the nostrils.

PAPILLOMA OF CARUNCLE.

DRS. W. C. POSEY and E. A. SHUMWAY had only been able to find five cases of this condition that had been accurately described microscopically, and this case was the sixth. The patient was a man aged 60 years, who exhibited a mulberry growth attached by a pedicle to the right caruncle, and two similar growths on the palpebral conjunctiva near the lid margin. The growths were incised and the loss of tissue replaced by a flap from the forehead. Microscopic examination showed a pedicle of connective tissue attached to the caruncle, from which proceeded numerous branches covered with a thick mantel of epithelium. The axial connective tissue was embryonal in character, and contained thin blood-vessel walls. There was a marked increase of lymphoid cells, and numerous goblet cells in the epithelium covering the caruncle and the mantels covering the tumor. There was no extension of the growth beneath the surface of the caruncle.

DR. GEORGE E. DE SCHWEINITZ referred to a case of papilloma springing from the plica semilunaris which he had removed last April.

DR. C. A. VEASEY had several years ago removed a growth which he thought was a papilloma, but which proved to be a sarcoma.

INTRAOCULAR METALLIC BODIES.

DR. GEORGE E. DE SCHWEINITZ described two cases of intraocular metallic foreign bodies which had been localized with the X-rays according to Sweet's method. In one case the body was firmly imbedded in a mass of cicatricial tissue behind the ciliary body, where it had been for ten months. It could not be removed with a magnet and the eyeball was removed as sympathetic inflammation had already set in. In the second case the foreign body was of unusual size and was easily removed twenty-four hours after the accident. The eyeball was collapsed; it was filled with normal saline solution and closed with catgut sutures and there was an uninterrupted recovery. He dwelt on the uselessness of attempting to remove a foreign body by a magnet after it had become imbedded and was of long standing.

INFLUENZA AND GLAUCOMA.

The speaker also read a paper on the etiological relationship of epidemic influenza to chronic glaucoma. Some writers had stated that glaucoma was more prevalent after epidemics of influenza. He related a case of retrobulbar neuritis caused by this disease in which he had observed the formation of a cup closely simulating glaucoma, and this condition might account in some cases for this supposed relationship.

DR. M. H. FENTON had seen a case diagnosed influenza, and on the sixth day the eye was of stony hardness, while the other eye exhibited chronic glaucoma. He believed the superintoxication in influenza induced glaucoma in eyes predisposed to the disease.

CONJUNCTIVAL HEMORRHAGE.

DR. HOWARD F. HANSELL reported a case of hemorrhage from the conjunctiva in an infant. The child at birth was frail, and for several days after birth there had been a purulent discharge from the conjunctiva of both lids. Two weeks later bleeding from the conjunctiva commenced and continued five days. The hemorrhage came from the entire conjunctival surface and continued day and night. The blood count showed 5,400,000 red and 5600 white corpuscles; the hemoglobin was not estimated. Death ensued at the fifth week.

DR. DE SCHWEINITZ recalled two cases of a similar nature, one of which he had reported.

Cincinnati Academy of Medicine.

Regular Meeting, Nov. 25, 1900.

GALL-STONES.

DR. RUFUS B. HALL presented some gall-stones, removed from a woman 37 years old, the mother of thirteen children, the youngest being but 7 weeks old. Her present illness began suddenly five weeks ago with what was at first supposed to be an attack of gastralgia; in a day or two, however, she commenced to have severe chills every day or even oftener, followed by profuse and exhausting sweats. At this time there was noted an enlargement of the upper part of the right abdomen extending downward below the free border of the ribs some three or four inches. She entered the Presbyterian Hospital one week ago; at that time she was delirious, her pulse was between 150 and 160. Soon after her entry she was taken with a chill which sent her temperature to 105. The abdominal enlargement had increased to about the size of an adult head. Suspecting a suppurating gall-bladder or an abscess of the liver, he aspirated and drew off a large quantity of pus. This he knew to be from the gall-bladder, as during the aspiration he could feel the stones therein. Within twelve hours she had improved greatly and at the end of fifty hours she could answer questions intelligently. He then operated, removing something over 850 gall-stones.

DR. J. L. CLEVELAND narrated a case that had come under his observation a number of years ago. The patient had had an intermittent fever for a long time which could not be controlled by quinin or arsenic. There was no jaundice, no enlargement over the liver, no tenderness, only a gastro-intestinal catarrh that might have been present in any fever. The gall-bladder could not be outlined. The patient went on from bad to worse, finally died, and on post-mortem examination the gall-bladder was found to be filled with stones.

FIBROCYSTIC TUMOR OF THE UTERUS.

Dr. E. Gustave Zinke presented a specimen of fibrocystic tumor of the uterus that in some respects resembled a pregnancy. The physical characteristics of the tumor were those of a pregnant uterus, but the history of the case was of longer standing than nine months. Even on opening the abdomen the tumor at first sight greatly resembled a pregnant uterus. Tumor was removed and the woman has made an uneventful recovery. Dr. Zinke also presented a specimen of multilocular cyst of the ovary with a pedicle thirteen inches in length. There were papillomatous masses within, but he did not think there would be any recurrence on that account. Recovery uneventful.

Dr. C. L. Bonifield presented a specimen of fibrocystic tumor of the uterus in which the uterus itself had participated in the cystic degeneration. In this case the cervix was much elongated, so much so that it protruded from the vulvar orifice. This specimen simply showed a more advanced stage of the disease than Dr. Zinke's tumor. Dr. Bonifield also presented a specimen of multilocular ovarian cyst with papillomatous ingrowths. This specimen was very much like that of Dr. Zinke's before it was opened.

LUNG WITH UPPER LOBE COLLAPSED.

Dr. W. D. Haines presented this specimen. Post-mortem examination was made some 18 to 20 hours after death; rigor mortis was absent; post-mortem staining was well marked, especially along the dorsal surfaces. Right kidney was enlarged and the kidney congested; the left kidney was normal. The liver was greatly enlarged. After the abdominal viscera had been removed there was noticed a marked bulging in the left hypochondriac region. On introducing the canula there escaped from five to six pints of mucopurulent fluid containing numerous flocculi. The pus-sac was in all probability tubercular. There was, as shown in the specimen, complete collapse of the upper lobe of the lung.

INTESTINAL OBSTRUCTION DUE TO INTUSSUSCEPTION.

Dr. Louis E. Cook reported this case, a girl 7 years of age, well developed and nourished. He was called first on the morning of June 28, and found her vomiting and complaining of cramps in the right side of the abdomen. The attack was sudden, as she had gone to bed the night before perfectly well. Pain was so severe that palpation of the abdomen was impossible. There was no fever. Vomitus was chiefly of mucus. A provisional diagnosis of intestinal indigestion was made, and hot applications were ordered to the abdomen and calomel and soda internally. During the day the bowels were moved by large enemata. Vomiting almost continuous, accompanied by much retching. On June 29 she passed a very bad night, pain continuous, no sleep; vomiting persisted during the day. On June 30, pain somewhat diminished, so that for the first time an examination of the abdomen could be made. Small elongated mass could be detected in the right iliac region; abdomen flat. Rectal examination was negative. Diagnosis changed to intussusception and a high enema given, with, however, no result. On July 1 she passed a restless night, better, however, than the preceding, the vomiting ceasing for about six hours. At 7 in the morning vomiting began again, becoming bilious. An enema was given at a temperature of 105 degrees, with high pressure from a fountain syringe, the patient being in the knee-elbow position. About one and one-half gallons of water were used. Vomiting was incessant during the injection. After the enema she passed some small, soft fecal masses and a large amount of gas, the first since the beginning of her illness. Vomiting stopped until evening, and it was then very slight. Mass in iliac region had disappeared. On July 2 child passed a fairly good night; vomiting stopped; bowels moved once. During the day rectal alimentation of peptonized milk was begun. She began feeding by the mouth by the 4th. and on the 8th of the month was able to take solid food. The temperature throughout the attack was seldom more than 1 degree above the normal.

Omaha Medical Society.

Regular Meeting, Nov. 27, 1900.

LEUKEMIA.

Dr. B. F. Crummer read a paper on this affection, and presented the subject. He was 32 years of age, of good family history. He was a man of good habits and denied any venereal history; he suffered with mild malaria in 1896, with nosebleed in 1898. During 1898 and 1899 he was very weak, had a rapid pulse and much dyspnea. He first came under observation Nov. 1, 1900. He was a basket-maker and went to the Missouri bottoms in May last to gather his material. In June he had to abandon his work and suffered with pain in the abdomen, anorexia, fever, night-sweats and loss of weight; his pulse was about 110, his temperature 101. There were mucous râles, and the inspiratory sounds were harsh; there was a soft, systolic murmur over the base. The spleen was much enlarged, notched, and reached downward to the crest of the ilium and one inch beyond the navel. The axillary, and inguinal glands were slightly enlarged; there was no tenderness of the tibia. He had been using Fowler's solution in doses of 15 or 16 drops for three or four weeks; he was now able to work a little; his temperature is still from 101 to 102 daily. There was an average of one white blood-cell to 12 or 15 red cells; hemoglobin was 45 per cent.; the myelocytes were in large proportion, about 12 per cent.; the bone-marrow was certainly involved, though the tibia was not tender. This patient was dangerously near the most grave proportions of the white and red blood-cells. The patient was doing well on the arsenic and the extract of bone-marrow. Another case, seen in 1892, showed the blood-cells in the proportion of 1 to 5 and the abdomen was entirely filled with the enlarged spleen; the patient lived two years. The Doctor had also treated a woman of 36 in 1896 who had marked pain and tenderness of the tibiæ; she had the lieno-myelogenous variety of leukemia, and improved under large doses of arsenic.

ICTERUS NEONATORUM.

Dr. H. M. McClanahan read this paper. Jaundice in the neonati is frequently observed; usually passes away in a few days without injurious effects, and is rarely a symptom of serious import. Of these cases, there are two classes: one, with recovery, without untoward symptoms; the other, in which other symptoms of disease are shown or the patients fail in strength. The first class is usually called physiologic, benign, pseudo or hematic in origin; the other, is called hepatic in origin. The red blood-cells are rapidly reduced in number, hemoglobin is liberated, converted into biliary coloring matter and carried to the intestinal tract. If the infant is very feeble or the skin surface is chilled, this coloring matter is deposited in the skin.

Quincke's theory is that the ductus venosus remains pervious and the blood from the portal vein, laden with bile pigment, is carried into the general circulation. These infants are always unusually feeble. The other class, the fatal cases, are called pathologic, or malignant icterus. Among the causes are congenital defects, or absence of the bile-ducts. Dr. White reported 18 cases in which there was an absence of either the hepatic duct or the common duct, or the latter had become an impervious cord. Cases have also been seen at autopsy in which the cause was due to pressure upon the ducts by a neoplasm. Syphilitic hepatitis is also a cause of jaundice. Reliable authorities report cures of intense jaundice under antisyphilitic treatment. Jaundice is often associated with sepsis due to a phlebitis of the umbilical vein which has hepatitis. The practical side of the subject is that the physician shall be able to differentiate between the benign and the malignant cases: in the former there are no serious symptoms: the stools are not clay-colored, the urine does not stain the napkin, there is no fever, no loss of weight; in the latter the icterus gradually becomes more intense, the eyes and the mucous membrane of the mouth gradually become icteric, the urine is dark, often scanty, and the stools white or clay-colored; the liver is enlarged; the temperature is often subnormal. Of greatest importance, however, is the gradual loss of weight in spite of the fact that the child takes an abundance of food. Syphilitic jaundice is rare, though the liver is often affected by syphilis; the diagnosis must be made from the history of the mother; miscarriages and still-births strongly point to this cause; in this form the liver is enlarged from birth, whereas, in obstructive jaundice, it gradually enlarges during the course of the disease. Jaundice due to sepsis usually appears later and has with it fever, anorexia, twitchings, tonic contractions or convulsions, and gastro-intestinal trouble. In sepsis accompanied by icterus there is frequently hemorrhage from the navel or bowels.

Dr. J. M. Aikin presented a brain and gave the following very interesting history: The man, aged 50, came to him in May, 1899, after an attempt at suicide. He was under treatment two months for persistent pain in the vertex; he admitted an almost irresistible impulse to suicide; there were no delusions. He was a man of large business, neither used liquor, tobacco nor drugs. There was no history of prior sickness; he gave up his business and traveled, improved, came back and resumed business. Later the headache returned; on the 24th the suicidal impulse again overpowered him. He wrote a letter with regard to it, and sent out three messenger boys, each having 10 cents for morphin; it is supposed that he got about 7 or 8 grains. He took all the powders, closed the room tightly and turned on the gas. He was found the next morning. After vigorous efforts, he was restored. On Sunday he was rational, doing well, apparently recovering. He said there had been no business reverses, no trouble, merely a return of the awful headaches with the irresistible impulse to suicide. On the 25th preparation was made to send him to the asylum; on the 26th his temperature was 103, respiration was about normal; he became worse, and died on the morning of the 27th. An autopsy showed that death was due to hypostatic pneumonia, a late result of the gas poisoning. The brain showed the source of the headaches and the suicidal impulses; the dura was strongly adherent for 3 inches back of the fissure of Rolando; calcareous matter was present. There had been no brain hemorrhage; degeneration was shown in the region supplied by the middle cerebral artery; there had been no paralysis.

Chicago Society of Internal Medicine.

Nov. 27, 1900.

President Dr. John A. Robison in the chair.

ACQUIRED DEXTROCARDIA.

Dr. Homer M. Thomas demonstrated a case of the above. A consideration of the general subject of heart displacement reveals two varieties—the congenital and acquired. Of acquired displacements, it is found that very considerable displacement of the apex-beat to the right may be due to retraction of the right lung from fibroid phthisis. Again, a very common cause is found in the development of pneumothorax. In cases of fibroid phthisis where dextrocardia exists, frequently the apex-beat is above the right nipple, and might be recognized by physical signs dependent upon collapse of fibrosis of the lung. The heart is pressed out of position by effusions of fluid—inflammatory, serous, or bloody—into either pleural cavity; by pneumothorax of either side; by intrathoracic tumors; by hypertrophous emphysema, or other causes of enlargement of the lung; by extensive pneumonic consolidation, or by abundant pericardial effusion of any kind. Certain conditions of the abdominal contents produce a similar effect, for example, gaseous distention of the stomach and intestines; enlargement of the liver and other solid organs; abdominal tumors of all kinds, and ascites when considerable.

In displacement of the heart toward the right, the condition is usually the result of effusion into the left pleural cavity; of contracting processes of the right lung or pleura; of left pneumothorax; and of tumors of the left side of the chest, or of the mediastinum. In extreme cases the heart may be displaced toward the right side until the impulse is found in the axillary region.

M. F. J., aged 46, a rubber-worker. His duties involved the inhalation of considerable quantities of soapstone, as well as carbon bisulphid for seven years. There is no family history of tuberculosis, neither of his having had pneumonia or pleurisy. His only sickness of recent date was an acute rheumatism in 1895. Present condition reveals a cough, shortness of breath, which begun seven years ago. He has had much headache, and pain in the left chest throughout his illness. For two years the cough was very dry; at present expectoration is abundant, and comes in somewhat paroxysmal seizures. No tubercle bacilli have been found. The injection of tuberculin developed absolutely no reaction.

Inspection shows general anemia; some debility; dyspnea. Complexion dark; emaciation moderate. Chest bulging at costo-chondral junction; respiratory movement hurried; restricted intercostal retraction. Apex-beat, fifth space, right nipple line; upper border, upper fifth rib. Right border, anterior axillary line. Left border, right border of sternum. Lower, contiguous with the liver.

Height, 5 feet, 8 inches; weight, 124 pounds. Tape measures: Right lung, expiration, 17 1/2 inches; inspiration, 18 inches. Left lung, expiration, 16 3/4 inches; inspiration, 17 inches. Combined expiration, 34 1/4 inches; inspiration, 35 inches. Temperature in the morning 97.5; noon, 98; and evening, 98. Pulse, 92; rhythm, regular. Heart: Valvular sounds clear; moderate thickening of arteries. Upon percussion of left lung anteriorly dulness is found extending from the supraclavicular, clavicular, and infraclavicular regions. Upon the right lung anteriorly there is hyper-resonance, which extends from the lower border of the first rib down to the lower border of the third rib in a semicircular line about one inch to the right of the costosternal articulation. Posteriorly, the lower border of the right lung shows increasing dulness extending from the lower border of the eleventh rib up to the inferior border of the sixth rib posteriorly. Posteriorly, in the right lung, extending downward from the superior border of the fourth rib down to the eighth rib anteriorly, typical bronchial breathing with moist, fine bubbling râles and increased vocal fremitus are found. There is great dyspnea upon exertion in city air, less so in country air. This is aggravated after eating a hearty meal. Patient has chronic constipation, bowel movement about once in five days. This condition has resisted treatment as to curative results. The constipation is doubtless due to mechanical engorgement of the lower bowel and rectum. The author's conclusions, based upon the history as well as the present clinical findings, are that the case is one of acquired dextrocardia, due to fibroid phthisis and an antecedent attack of pleural pericarditis.

Treatment consists in removing the exciting cause of the dextrocardia, and, necessarily, the displacement would tend to correct itself. This general principle of treatment can be applied to only a limited extent in this case. The exciting cause is of too chronic a character, and the lesions resulting from the same too permanent, to admit of entire removal. Treatment is therefore mainly directed toward maintenance of the best possible physical condition, and the relief of acute symptoms as they may arise.

COMPLETE TRANSPOSITION OF VISCERA, INCLUDING LUNGS.

Dr. George W. Webster reported a case of this kind. He believes the lungs are transposed, for the following reason: On account of its size, and the angle at which the right bronchus is given off, and possibly for other reasons, the percussion sound on the right side in the infraclavicular space is slightly higher in pitch. In the same situation the normal respiratory murmur is slightly harsher in quality and raised in pitch, and the normal vocal resonance is increased there. In this case the normal disparity is reversed, warranting the conclusion that the lungs are transposed. Congenital anomalies and malformations of the heart are interesting. Recently Féré has demonstrated that marked modifications in development may be produced in the chick by injecting pathogenic germs and toxins into eggs undergoing incubation. These experiments show that agents which produce disease during extrauterine life, and later intrauterine existence, give rise to malformations during the earlier phase of existence. Ballantyne puts it thus: "The same causes are in action in both periods, but when influencing an embryo so far developed as to have specialized organs, the result is disease. When, on the other hand, influencing an embryo, in which such specialization has not been carried on to the same extent, the result is a malformation. In the one case the results are pathological; in the other, teratological." Causes of congenital diseases and malformations are similar and may be identical. Among internal displacements, transposition of the viscera is perhaps the commonest. Dextrocardia may be present without transposition of the viscera, but such cases are rare.

Two hypotheses have been proposed in explanation of this anomaly. Dr. Frazier suggests that the transposition may be due to the subject having been one of twins which were developed from a single ovum, and in which dichotomy was complete. Von Baer has found that in a few instances the embryo lies with its left side directed toward the yolk, whereas the right side is normally in this position.

Dr. Robert H. Babcock stated that he was interested in the subject of dextrocardia, both congenital and acquired, and in his early practice he encountered four cases within two years. Autopsies were made in two of them. He was much interested in the manner in which the heart could become displaced so extensively to the right. There must be some rotation of the heart, and in looking up the subject he found there was great diversity of opinion expressed on that point, some maintaining that as the heart was pushed over to the right, it rotated on its long axis in such a manner as to bring the left ventricle to the front and the right chambers farther to the right and posteriorly, others maintaining again that the heart rotated on its long axis so as to bring the right chambers more to the front and the left chambers more to the rear than they are normally. In one of his cases, a boy, 3 or 4 years of age, the heart was extensively displaced to the right in consequence of retraction of the right lung and pleuro-pericardial adhesions. There were systolic murmurs over the base of the heart, and he believed them to be vascular. At the autopsy it was found that the heart had rotated so that the right chambers came well to the front and over toward the left side, and the superior vena cava and innominate were drawn across the aorta in such a way as to produce a very considerable obstruction to the arch of the aorta. This obstruction had led to extreme dilation of the left ventricle. There were also hypertrophy and dilatation of the right ventricle in consequence of tension in the pulmonary artery.

The second case of his series that came to autopsy was a young man who died of tuberculosis, in whom the left lung was found absolutely destroyed, the left half of the thorax converted into a huge pyopneumothorax, the bronchial tubes cut off and sealed, and that half of the chest containing about a pint of sweet-smelling pus, the walls being lined with cheesy material. The heart was displaced to the right side, and there were tubercles upon the pericardium. The right lung was contracted, more or less cirrhotic, drawn back and reduced in size. The heart was rotated in the opposite direction, the left chamber coming more to the front, producing considerable twist in the axis of the aorta, stretching the arteries and veins in a peculiar fashion, producing considerable tension and increase of blood-pressure, but there were no murmurs, such as are recognized in many cases of anemia, and which in those days he regarded as hemic murmurs.

The first case he happened to see of the series was a man who had a pronounced cirrhosis of the right lung; the heart lay absolutely horizontal in the right half of the thorax, and completely uncovered by lung.

The subject of congenital dextrocardia is more interesting from a pathological than a clinical standpoint. He had seen a recent statement to the effect that cases of congenital dextrocardia were apt to die of pulmonary tuberculosis. This interested him, because in the last case that came under his observation he had an opportunity to notice the development of pulmonary tuberculosis about a year after he examined the woman, although there was no tubercular history in the family. She came to him on account of heart-beat in the right side. There was no indication that that girl would develop pulmonary tuberculosis. When he saw her a year afterward she had pronounced pulmonary tuberculosis with bacilli in the sputum.

Dr. George W. Webster said that in 1875 Rokitansky, of Vienna, wrote his famous monograph on congenital cardiac malformations, and in it he pointed out that these congenital malformations of the heart are very likely to lead ultimately to either general or pulmonary tuberculosis. This statement has been shown to be too broad. It is well-known that congenital lesions, where they affect the pulmonary orifice, practically always lead to either general or pulmonary tuberculosis on account of the anemia of the lungs, which is always induced as the result of the valvular lesion. The views of Rokitansky were too sweeping, and his statements applied only to cases of congenital stenosis of the pulmonary artery and not to other malformations. He had seen nothing in medical literature that he recalled at the present time, and he had gone over Peacock's work very carefully where there was any reference to complete transposition of all the viscera leading to pulmonary complications, or to the likelihood of patients dying earlier from the complication of pulmonary tuberculosis.

Dr. H. M. Thomas, in closing the discussion, said that with reference to the exciting cause of heart displacements of the acquired type, the case he had presented appeared to have acquired the dextrocardia during his seven years' work in a rubber factory where he inhaled considerable carbon bisulphid. The man was in perfect health when he entered the Morgan and Wright factory, and after seven years' labor therein his dyspnea became so great and paroxysmal cough so marked that he had to discontinue working, so that the influence of employment was one cause, and the specific effects of the inhalation of carbon bisulphid the other.

The Kings County Medical Association.

Stated Meeting, Dec. 11, 1900.

President Dr. H. Arrowsmith in the chair.

TREATMENT OF ACUTE DYSENTERY BASED ON ITS ETIOLOGY AND PATHOLOGY, WITH SPECIAL REFERENCE TO USE OF MAGNESIUM SULPHATE.

Dr. W. J. Cruikshank said that from January till December, 1897, 97,000 persons had been stricken with dysentery in Japan, and 70,000 had died. In one province there had occurred in 1890 801 cases, with 225 deaths, and in 1891, 8390 cases with 2163 deaths, or a mortality of a little over 26 per cent. Every country in Europe had paid a heavy tribute to dysentery. In the tropics this disease destroys more lives than cholera, and has been more fatal to armies than powder and shot. In France dysentery was accountable for 1/20 of the total mortality in the army, and in Algeria it represented 1/5 of the total mortality. In epidemics occurring in temperate climates the mortality varied from 7 to 15 per cent. In tropical epidemic dysentery the mortality was between 20 and 30 per cent., although even so high a mortality as 60 or 70 per cent. had been noted in certain epidemics. Military experience in the tropics showed that acclimatization had no effect on dysentery. According to Pepper, this disease was responsible for the death of 300,000 of the soldiers during our Civil War. The recent official reports from the United States army and navy did not give detailed information regarding dysentery during the late war with Spain. In the year 1898 there had been 368 deaths from dysentery in Greater New York, and in 1899, 267 deaths. The preponderance of evidence seemed to be in favor of the amebic theory as to the etiology of this disease. Bacteriologists were agreed that dysentery is the result of microbic infection, but opinion was divided as to whether it was the result of a specific micro-organism or of several bacteria.

The speaker expressed the opinion that the so-called varieties of dysentery were chiefly founded on mistaken ideas regarding the etiology and pathology of the disease. Dysentery had been frequently confounded with simple diarrhea and enteritis. One of the most misleading of these so-called varieties was that designated as malarial dysentery. Dysentery is one disease, and one only, whether observed in the tropics as endemic, or in the temperate regions as sporadic. Even so careful and conservative a writer as Flexner had expressed the opinion that the conclusions of bacteriologists which had led to the establishment of various types of the disease might not be strictly in accordance with fact. He was of the opinion that the causative agent of dysentery might not vary in these different types.

The reader of the paper expressed the belief that the underlying principle of treatment was purgation, in spite of the many statements of medical authorities to the contrary. The remedy he recommended was magnesium sulphate used in such a way as to secure depletion of the vessels, rather than purgation. He believed that this remedy was as nearly a specific for dysentery as quinin was in malaria, or mercury and potassium iodid were in syphilis. In all cases of acute dysentery, from the beginning of the attack until there was a subsidence of the symptoms, it should be administered in dram doses every two hours, dissolved in a very little water and mixed with a little aromatic sulphuric acid. If tympanites were present, it would rapidly subside under this treatment. At the end of forty-eight hours the stools would become biliary and feculent in the vast majority of cases. When the stools had become nearly normal the medicine could be gradually withdrawn. The average duration of the disease under such treatment was from three to seven days. The practitioner was often tempted in these cases to give a hypodermic injection of morphin to relieve the pain, but his experience had taught him that almost as great relief followed the use of the magnesium sulphate. By stimulating the naturally sluggish liver to greater activity the sulphate increased the biliary secretion, and in this way acted somewhat anti-septically, he believed, though he well knew that this was a mooted question in physiology. This remedy, by abstracting water from the tissues and pouring it into the intestine, depleted the mucous membrane, diminished the inflammatory process and rid the intestinal canal of the infectious material. The physiological action of this medicine had been known and appreciated for years by gynecologists and surgeons. Dr. Cruikshank said that his attention had been directed to this method of treatment by a case which he had treated some years ago, according to the plan then in vogue, that is, the alternate administration of sulphate of magnesium and opium. He had noted the great improvement in all the symptoms following the use of the sulphate and the return of the dysenteric symptoms when opium and bismuth had been given, but he had not had the courage to depart from this approved plan of treatment, and on calling in eminent counsel it had been indorsed as the proper one. The patient had died after ten days. The author gave copious citations from a number of medical authors who had found magnesium sulphate exceedingly useful, and vastly superior to the other remedies commonly employed. His conclusions were: 1, dysentery is a disease of great gravity: 2, it is both contagious and infectious: 3, it is caused by the introduction into the system through food and drink, and also through the air, of a specific micro-organism the identity of which seemed still in doubt: 4, dysentery is one disease in whatever latitude it is found, and the only varieties are those based on the intensity of the morbid process; 5, the therapeutic agents suggested for the treatment of acute dysentery are useless and often harmful, and magnesium sulphate acts as a specific.

Dr. Ira van Gieson called attention to the unfortunate tendency of the present time to unduly exalt the sphere of the laboratory in the study of the science of medicine. He had personal knowledge of the patient way in which the author had elaborated this subject, and was free to say that the therapeutic discovery contained in this paper had been made independently of others and without a knowledge of what others had previously done.

Dr. E. H. Bartley was disposed to differ from the author in his view that all cases of dysentery are true dysentery, not excepting acute colitis with bloody discharges. Cases were cited in illustration of this point. Again, most bacterial diseases are self-limited, but statistics and all our experience showed that this was not the character of dysentery. He also doubted the possibility of communicating the disease through the air, because the amebæ do not fly, and when dried up they are no longer contagious. Perhaps the author had not dwelt sufficiently upon the hepatic stimulation which results from the treatment which he advocates. Such stimulation was produced by strong saline solutions, especially solutions of sulphate of soda and magnesium. This increases the oxidation processes of the liver, and augments the activity of this organ as a destroyer of poisons, thus assisting the system to resist the action of the poisons thrown into the circulation by the pathological process. The treatment also caused a freer portal circulation and unloaded the small intestine. Dysentery was really a constipating disease, as there is constipation in the small intestine, and this gives rise to congestion and obstructed circulation in the rectum.

Dr. Jacob Fuhs said that this treatment was a rational one, which was shown not only by the results attained, but by its applicability to other infectious diseases. Nature's method of treating this disease was eminently eliminative, and it seemed strange that the profession should have fallen into the way of administering such remedies as were distinctly opposed to Nature's method. The only explanation that he could offer for this was that the great distress of patients suffering from dysentery had tempted physicians to resort to narcotics. It had been customary in the past to try to counteract the noxious effect of the narcotics by giving castor-oil: hence the popularity of the old opium and castor-oil treatment. He had found the sulphuric acid treatment useful. While he had had only a very limited experience with the treatment with magnesium sulphate, so far as it had gone it had been eminently satisfactory.

Dr. Lewis W. Pearson said that it had been his practice to begin the treatment of dysentery by giving a dose of magnesium sulphate or of castor-oil, and then follow this with opium, bismuth and muriatic acid. Recently he had tried another method—the giving of enemata of permanganate of potassium, using at first one quart of a 1 to 4000 solution, and later a 1 to 2000 solution. The latter strength had been kept up until the patients had nearly recovered. Recovery had been very prompt in each instance. He had been led to try this method because dysentery is a bacterial disease.

Dr. Cruikshank, in closing the discussion, said that there might exist an acute colitis from other causes, but such a case was not dysentery. The so-called varieties of dysentery were simply the result of the absorption of varying quantities of toxin. Dysentery was a specific disease and required a specific plan of treatment.

Cleveland Medical Society.

Regular Meeting, November 24, 1900.

President Dr. Henry S. Upson in the chair.

PRESENTATION OF CASES.

Dr. William E. Wirt presented a man on whom he had operated for club-foot. The deformity in this case was an extreme equinus with some degree of varus. He did a tenotomy of the Achilles tendon, following which he corrected the deformity by force. He showed that the result gave the man a fairly useful foot. He also presented a child 20 months old on whom he had successfully operated without cutting. He also presented a case of periostitis of the tibia in a boy 4 years old. He discovered that the lesion had a specific origin, and by using potassium iodid he had secured a good result.

CONGENITAL DISLOCATION OF HIP-JOINT, WITH ESPECIAL REFERENCE TO LORENZ'S BLOODLESS REDUCTION.

Dr. Walter G. Stern said that the congenital dislocation of the hip-joint has been considered quite rare, but as the knowledge of its curability is disseminated, the number of cases treated and reported has so increased that Hoffa says "it is the most common congenital affection." It is stated that 87.8 per cent. of cases occur in females: 1/3 are bilateral. The most frequent dislocation is upward and backward upon the dorsum ilii. An acetabulum is always present, mishapen and generally filled up with connective tissue. The muscles are distorted, the pelvis flattened and tilted, sometimes enough to cause obstruction to labor.

The symptoms are limping or waddling gait—explained by Trendelenburg as an adduction gait, in which the side of the pelvis opposite to the leg bearing the weight of the body sinks down in walking—shortening the limb, flattening of the buttocks, etc. The trochanter stands above Nélaton's line, and the head can be felt backward among the gluteal muscles. The prognosis for untreated cases is bad, as nearly all complain, later in life, of pain on walking or standing and even inability to walk. Every case treated between the ages of 4 and 10 years can be cured (freed) of the dislocation by one means or another. The safest, quickest and best method is the "bloodless reduction" of Lorenz. The most suitable age is between 4 and 8 years. The adductor muscles are torn by forcible abduction. Then the thigh is flexed, and extension made in a vertical direction with the hand or a wedge pressing on the trochanter from behind. When the head comes forward to the level of the acetabulum the leg is abducted, pressure on the trochanter being increased, when with a palpable and audible snap the head suddenly pops "over the posterior rim" of the acetabulum. The reduction can also be affected "over the upper rim" with extension made by two assistants pulling on a skein slung around the thigh. Traction by means of a screw has been given up, on account of the danger of fracture to the collum femoris. The reduced leg is placed in plaster of paris in the position of flexion, extreme abduction and slight inward rotation of the foot for four to six months. A high shoe is placed under the reduced leg to permit the patient's walking about. "Functional burdening" of this leg causes the acetabulum to become deepened, and after six months the joint is quite stable. The leg is again fixed for three months in a medium position. Then the patient is given a slightly higher shoe under the sound foot, to abduct the reduced side slightly, and gymnastics and massage complete the cure. Lorenz reports but 10 per cent. of total failures. If this fails the joint can be opened and the bloody reduction of Hoffa, in which the acetabulum is scooped out with a Volkmann spoon, performed Should this fail, resection of the head, with bony ankylosis, will give the patient a useful joint.

Dr. William E. Wirt, in discussing the paper, said that he thought the author was a little too enthusiastic in regard to the results to be obtained by the Lorenz method. He quoted a report made by Whitman showing that, while the method secured reduction, it did little toward relieving the lameness. In a certain number of cases the bloodless method is the best. One advantage of the bloodless method is that it does no harm to the patient. He reported a case of his own in which he had tried the bloodless method and placed a plaster cast on the limb. While away for a few months another physician removed the cast and pronounced the result a cure. Within a week dislocation recurred and the work had to be done over again. Fixation must be maintained for a long time in order to obtain a cure. He showed a brace which he had used to maintain the limb in position after the cast had been removed. He said that it required a good deal of force to reduce the dislocation by the bloodless method, and that the force has to be continued for a considerable length of time.

Dr. Walter G. Stern, in closing said that if a case was taken in time it could be cured by the Lorenz method. In case of failure at the first trial, a second or third may succeed. Finally, the bloody method can be tried. The advantage of the Lorenz method is that while the results may not be perfect, yet it does secure a stable limb. He had seen 220 cases in Lorenz's clinic in which there occurred only three fractures of the femur. These fractures occurred in cases of great deformity in which several sets of assistants were tired out in pulling for extension. Lorenz uses assistants for this purpose, and has discarded all screw devices.

PRESENTATION OF SPECIMENS.

Dr. Augustus F. House presented specimens of adenoma of the thyroid gland. He had removed nine during the last six months, and had operated by making a long, circular incision around the base of the neck and turning back a large flap of skin over the tumor. In this way the scar is where it will not be seen, and keloid is not so likely to follow. In the cases which were anemic he had put from one to two quarts of saline solution into one of the veins in the neck. None of the operations were done under local anesthesia.

ALBUMINURIA WITHOUT NEPHRITIS.

Dr. P. Maxwell Foshay reported a case in which albumin had been detected over a year ago and at the present time there is still a trace to be found. The chief point of interest is that at the end of fifteen months there are no casts or other foreign elements in the urine. There is no change in the vascular system, and no symptom of systemic disease. The patient is a young man, and the albumin had been found in an examination for life insurance. Careful search failed to reveal any cause for the albuminuria. While many such cases entirely recover, and while prognosis in the average is good, yet they are not safe risks for life insurance, because we can not yet distinguish between those cases which subsequently develop nephritis and those which do not. Therefore, in the present state of our knowledge, such cases have to be refused life insurance.

Dr. Henry W. Rogers had seen a similar case, which, at the end of two years, developed a true nephritis. He said that the arteries should be carefully examined as well as the urine.

AORTIC ANEURYSM.

Dr. Frederick C. Herrick showed a specimen of a small aortic aneurysm and complete aortic insufficiency. The heart was very large, weighing 828 grains, and the ventricular walls, especially the left, were very much hypertrophied. There was absolutely no aortic closure when the case was studied before death. Several times there had been a pulsus bigeminus and pulsus alterans. The area of dulness was very large, but there was no aneurysmal bruit.

Dr. W. T. Howard said that he had reason to think that aneurysm was very common in Cleveland and vicinity. He had seen many more cases since he came here than he had in Baltimore. Aneurysm of the aorta is not the cause of hypertrophy in the left ventricle. Dilatation of the aorta does not increase the vascular tension, nor cause cardiac hypertrophy.

Toronto Clinical Society.

Stated Meeting, held November 14, 1900.

POST-HEMIPLEGIC MOTOR APHASIA.

Dr. W. H. Papler presented a man aged 43, who in 1891 had severe headaches lasting for a couple of weeks and followed by weakness of the right arm and leg with some difficulty of speech. From this he gradually improved. Two years thereafter he had another attack, at which time he remained in the hospital perfectly insensible for three weeks. He regained consciousness and left; there was no paralysis at that time. About six months after that he had a series of attacks of temporary insanity lasting from two days to two weeks at a time and six to eight months elapsing between the attacks. He is now the subject of these attacks. During them he can not speak voluntarily nor answer any questions. He can not repeat words and can not read aloud nor write. In most of the attacks he uses oaths and unintelligible gibberish. The attacks are now very frequent, varying from one to eight in twenty-four hours and lasting a minute or less. There is no paralysis remaining now, but there is slight rigidity of the right leg and walking is defective. Dr. Papler considers that there was originally a hemorrhage or a thrombus in the middle cerebral with serious injury to the posterior part of the third left frontal convolution. The patient has been taking a dram of potassium iodid three times a day.

TRAUMATIC PARALYSIS OF THE RIGHT RECURRENT LARYNGEAL NERVE.

Dr. H. E. Tremayne, Lambton Mills, presented a boy of 14 years, who about ten weeks before, while going up a hoist, lying on the floor looking downward, had received a jam in the neck between the floor of the hoist and the floor above. He was seen by the Doctor a few minutes afterward, and complained of very severe pain on the slightest movement of the neck. His voice was very hoarse and there was a puffiness at the root of the right sternomastoid; but the skin was not broken anywhere. About November 7 he was again seen by the Doctor, when he complained of cough, which caused him to vomit up his food. Examination of the throat revealed the right cord immovable.

TUBERCULAR TUBES, WITH ACUTE PERITONEAL INFECTION.

Dr. H. A. Bruce read a history of this case and presented the specimens. It occurred in a young woman of 26 years, who had always been healthy and had been accustomed to heavy domestic work. Five weeks ago she suddenly was taken with severe pain in the abdomen and vomiting, with temperature, 102, and pulse 110. Her abdomen rapidly filled with fluid. There was no evidence of disease in the lungs, kidney or bladder. Her uterus was found fixed with a fulness on either side. On opening the abdomen, it was found filled with a dark greenish fluid of which several quarts were removed. The tubes were of the size of a small banana, the peritoneal surfaces soft and red, and looking like granulation tissue. They were removed, and the patient made a good recovery. It is now five months since she left the hospital and she continues in good health. Microscopic examination revealed tubercle.

ALOPECIA UNIVERSALIS.

Dr. Graham Chambers presented a female of 20 years; she said that her hair began to fall out in patches when she was about 5 years of age, from which she subsequently fully recovered. At the age of 12 she again began to suffer in patches, and since that date has never been free from the disease. At the present time she has no hairs on the body with the single exception of two small fine hairs on the anterior portion of the scalp. In 1898 she was treated for interstitial keratitis.

ATAXIC PARAPLEGIA.

Dr. Graham Chambers presented a girl of 17 years, with a negative family history. Menstruation began at 14, but since has been very irregular. In March last the cellar of the house where the patient was working was flooded, and not knowing that she was menstruating at the time, she took off her shoes and stockings and waded through the water, which came up to her knees. Two days later she complained of feeling tired and that her left leg was so heavy she could not lift it. A month later the disease extended to the right leg, with numbness and heaviness, but she suffered no pain in the legs or back. Both ankle and knee clonus are present in the left leg. Romberg's sign is present; and the patient can not distinguish hot from cold on the plantar surfaces of the feet and on the sides of the ankle-joints. Several patches of skin between the ankles and the knees are anesthetic. Patient is now unable to walk without aid.

HYDATID CYST OF THE PANCREAS.

Dr. George A. Peters reported this case, which occurred in the practice of Dr. MacKinnon, of Guelph, and on which Dr. Peters had been asked to operate. It occurred in a young man of 20 years of age, of Spanish birth, a resident of the Argentine Republic, who was on a short sojourn in Ontario. In May, 1900, he came under the care of Dr. MacKinnon. For two or three years the patient has suffered from attacks of pain obscurely located in the stomach and bowels, and latterly had his appendix removed, at which time a tumor could be felt in the left hypochondriac region, which at times was the seat of great pain. The cyst was first aspirated, and thirty ounces of a limpid fluid of sp. gr. 1.13 withdrawn. Much relief was experienced, but the cyst slowly filled, and the temperature and pulse showing that septic process was proceeding, it was decided to operate. On examination, a rounded tumor could be felt below the ribs on the left side, about midway between the nipple and sternal lines. Its relation to the pancreas was determined by the stomach resonance above the tumor and between it and the liver as well. Between the spleen, kidney and tumor, resonance was also present. The operation was done from behind, the incision being made along the margin of the erector spinæ, three inches long. Considerable difficulty was experienced in its removal, owing to the toughness of its walls. An examination of the fluid shows numerous daughter cysts with their attached embryos as well as many separate hooklets. The specimens were exhibited by Dr. Peters, and the hooklets were well seen under the microscope. A search of the literature so far by Dr. Peters reveals no other reported case of hydatid cyst of the pancreas.

Therapeutics.

Phenosalyl in Laryngeal Tuberculosis.

Dr. S. von Stein, in *N. Y. Med. Journal*, states that phenosalyl is a bactericide which ranks next to mercury bichlorid in efficiency. He has used it in sixteen cases of laryngeal tuberculosis with marked results, always applying a local anesthetic first. Phenosalyl is composed of:

Acidum carbolicum	9 parts
Acidum salicylicum	1 part
Acidum lacticum	2 parts
Menthol	1/10 part

He claims that under this treatment dysphagia has improved, limited or diffuse infiltrations have become smaller, and improvement when ulceration is present combined with infiltration. The dyspnea, expectoration and bacilli were reduced. He regards his treatment as positively curative.

Acute Capillary Bronchitis.

The following mixture has been recommended by Whitla, in the "Manual of Therapeutics:"

℞.	Vini antimonialis		
	Spiritus chloroformi, āā	ʒiv	16
	Spiritus ammoniæ arom	℥i	32
	Liquoris ammonii acetatis	℥ii	64
	Aquæ q. s. ad	℥viii	256

M. Sig. A tablespoonful every two hours.

Treatment of Postpartum Hemorrhage.

Dr. Byers, of Belfast, in the *Amer. Jour. of Obstetrics*, advocates the following treatment for hemorrhage from relaxed uterus, which should be resorted to in the order named:

1. External uterine massage.
2. Irrigations of the uterus with hot saline solution.
3. Introduction of the hand into the uterus.
4. In case of failure of the first three, bimanual compression of the uterus.
5. Gauze plugging the uterus.
6. The drawing downward of the uterus.
7. If hemorrhage comes from the lacerations of the genital tract, it is recommended to stitch if you can, and plug if you can not.

Dr. James H. Etheridge, former professor of obstetrics, Rush Medical College, always insisted on making pressure on the abdominal aorta in severe postpartum hemorrhages.

Abortive Treatment of Boils.

Dr. Jorissene, a French physician, states that a good application for aborting boils consists of:

℞.	Hydrarg. oxidi rubri	ʒi	4
	Lanolini	ʒx	40

M. Sig. To be rubbed in well once a day, or oftener on large ones. Acne and whitlow can be subjected to the same treatment.

—*Pract. Revue.*

Nerve Tonic.

As a tonic in functional nervous diseases Dr. Julius Flesch gives the following combination and states that he has obtained excellent results from its use:

℞.	Quininæ ferrocitratis	gr. xlv	3	
	Strychninæ nitratis	gr. i		06
	Extracti kola fluidi			
	Sodii glycerophosphati āā	ʒvi	24	
Dissolve slowly by heat and add:				
	Syrupi aurantii	℥vi	192	

M. Sig. One teaspoonful after each meal.

—*N. Y. Med. Jour.*

Treatment of Thrush in Infants.

Escherich suggests a small pledget of sterile cotton thoroughly impregnated with about three grains of finely pulverized boric acid to which a little saccharin has been added. The pledget is then placed in a little bag made of silk and given to the child to suck. The saccharin being pleasant, the child is quite willing to retain the bag in the mouth, so the boric acid acts constantly on the parasite. A new sac is used each day. Cure is said to be prompt. —*Phila. Med. Jour.*

Treatment of Croup.

The following outline for the treatment of croup was published by De Guy in *Jour. des Practiciens.* He states that aside from the use of antitoxin, it is wise in many cases to use local antiseptics.

As a disinfectant, if the breath is fetid and the throat is sore the following is advised:

℞. Chloral hydratis	ʒi-ii	4-8
Aquæ destil	Oii	1024

M. Sig. Use with a soft catheter as a wash for the postnasal spaces and pharynx, the child being held in such a position that the head is below the body; or:

℞. Potassii permangan	gr. iv	25
Aquæ—boiled	Oii	1024

M. Sig. To be used the same as the above.

Hydrogen peroxid in the proportion of one to ten may be used for similar purposes. These washings of the postnasal spaces are continued as long as necessary to overcome the fetor and to combat the development of the false membrane or until the membrane has disappeared, in order that the Loeffler bacillus may be destroyed.

TO OVERCOME THE DEPRESSION.

For the purpose of overcoming the depression, which is frequently pronounced, the following is given as a rectal injection:

℞. Caffeinæ		
Sodii benzoatis, āā	gr. x	66
Aquæ destil	℥ss	16

M. Sig. Per rectum once or twice daily.

CARDIAC TONIC.

As a cardiac tonic by the mouth the following is recommended:

℞. Caffeinæ	ʒi	4
Tinct. kolæ	ʒvi	24
Ext. cinchonæ fluidi	ʒiii	12
Vini	Oii	1024

M. Sig. Take a wineglassful several times a day.

Artificial serum may be injected in quantities varying from two to ten ounces where caffein is not sufficiently stimulating. The serum is composed as follows:

℞. Sodii chloridi	ʒii	8
Sodii sulphatis	gr. xlv	3
Aquæ destil	Oii	1024

M. Sig. By hypodermoclysis.

TO CONTROL NERVOUS EXCITATION.

The nervous excitation may be controlled by the following:

R. Sodii bromidi	ʒi	4
Antipyrini	ʒii	8
Aquæ menthæ pip	℥ii	64
Syr. aurantii	℥iv	128

M. Sig. A teaspoonful, according to age every few hours.

De Guy states that sodium benzoate is a valuable remedy in case bronchitis should develop:

℞. Sodii benzoatis		
Aq. laurocerosi, āā	ʒii	8
Syr. aurantii		
Aq. menthæ pip., āā	℥viii	256

M. Sig. One teaspoonful two or three times a day.

DEODORIZER.

As a spray, to be used in the atomizer for the purpose of deodorizing the atmosphere of the room:

R. Eucalyptol		
Essentiæ thymi		
Essentiæ citron		
Essentiæ lavendulæ, āā	ʒi	4
Alcoholis	℥v	160

M. Sig. As a spray, to be used in the room.

Spasmodic Croup.

℞. Ammon. carb.	gr. ii	12
Syr. senegæ	m. x	66
Mucilag. acaciæ	ʒii	8

M. Sig. One such dose to be given every two hours, unless patient vomits; if vomiting occurs diminish the dose.

AS A SPRAY.

Also in a steam atomizer:

℞. Sodii carbonatis	ʒi-ʒii	4-8
Aquæ q. s. ad	℥iv	128

M. Sig. Use every half hour. —Wharton.

IN TABLET FORM.

R. Ext. cannabis indicæ	gr. 1/20	003
Ext. hyoscyami	gr. 1/16	004
Tinct. opii camphoratæ	m. v	33
Syrupi ipecacuanhæ	m. x	66
Ext. glycyrrhizæ	gr. ii	12

M. Ft. compressed tablet No. i. Sig. One such dissolved in water every twenty minutes.

R. Chloralis hydratis	gr. lxxv	5
Potassii bromidi	gr. xlv	3
Ammonii bromidi	ʒss	2
Aquæ cinnamomi	℥ii	64

M. Sig. A teaspoonful in water and repeat in twenty minutes. —Holt.

CALOMEL FUMIGATION.

Holt states that, leaving out antitoxin and surgical operation, the only therapeutic measure that can be said to be of much avail in treatment of membranous croup is calomel fumigations. He does not regard it as a substitute for antitoxin but is beneficial where circumstances make the use of antitoxin impossible.

In giving calomel fumigations the child should be placed in a closed tent either in a sitting posture or lying down. In emergency cases a very simple arrangement, according to Holt, can be constructed by taking a piece of tin two inches wide and ten inches long and placing it over an alcohol lamp so that the flame will come close to the tin. The lamp is lighted and placed beneath the tent. Place ten or fifteen grains of calomel on the plate and allow it to vaporize for ten to twenty minutes, and repeat every one, two, or three hours, according to the severity of the case, being careful not to have the fumes too concentrated.

Orthoform in Toothache.

Hildebrand, in *Ther. Monatsch.*, states that orthoform instantly and completely relieves severe pain due to inflammation of the pulp in decayed teeth. It should be applied in alcoholic solution on absorbent cotton.

Tinea Tonsurans (Barbers' Itch).

The *Jour. of Med. and Science* publishes the following formula, recommended by Dr. Hodara, of Constantinople, for treating barbers' itch:

℞. Sulphuris	ʒiiss	10
Zinci oxidi	ʒv	20
Sacchari	ʒv	20
Glycerini	ʒiiss	10
Lanolin		
Vaselini, āā	ʒv	20

M. Sig. Apply in thick layer night and morning until the crusts have been removed, then once a day.

Pleurisy.

The following mixture has been suggested by Matas to relieve the cough and remove the serofibrinous exudation:

℞. Ammon. carb.	ʒss	2
Aquæ laurocerasi	℥ss	16
Syrupi lactucarii		
Syrupi senegæ āā	℥i	32
Syrupi tolutani q. s. ad	℥iv	128

M. Ft. mistura. Sig. One tablespoonful every two hours.

Medicolegal.

Disregarding All Medical Testimony in Case.—Where it appears, in a personal injury case, that the jury, in reaching its result, must have disregarded the whole range of the medical testimony of the plaintiff or defendant, notwithstanding the credibility of the witnesses stands unimpeached, and that their testimony can be reconciled with the other evidence in the cause, this of itself, the Supreme Court of New Jersey holds, in Barry vs. Pennsylvania Railroad Company, is ground for a new trial.

Waiver of Privilege in Action for Services.—Waiver of privilege as to one or more of several attending or consulting physicians, the fourth appellate division of the Supreme Court of New York holds, in the case of Hennesy vs. Kelly, is *not* a waiver as to all, as held in the decision reported on page 451 of THE JOURNAL of August 18, 1900. In particular, it holds that as to two physicians called in consultation at different times there was a waiver of privilege as to the one because the patient had given evidence as to the occasion when he was present, and as to which he testified, but that the evidence of the other was not admissible because no evidence with reference to the occasion he was present had been given by the patient.

May Show Condition of Womb and Probable Sterility.—If a married woman is injured by the negligent act of another, she is entitled, the Court of Appeals of Kentucky holds, in the case of the South Covington and Cincinnati Street Railway Company vs. Bolt, to maintain an action for damages, and the same criterion of recovery exists as to her as to a man or a single woman. Moreover, it holds that the married woman injured in this case was entitled to show by the physician who attended her the condition of her womb, and that in his opinion she could never again bear a child, although, as the judge properly instructed the jury, the jury could not consider the question of her sterility in fixing damages. The court says that she was entitled to show the extent of her injuries, and in describing the condition of the womb, if it showed that she would probably be sterile thereafter, it was proper for it to go to the jury. It was her right to show the extent of her injuries, but, if a certain condition which appeared to exist could not enter as an element of the question of damages, it was proper for the court to tell the jury so, but the necessity for doing that could not deprive her of her right to show the extent of her injuries.

Validation of Imperfect Registration Not Retroactive.—Section 148 of Chapter 661 of the New York Laws of 1893 pertaining to the public health and regulating the registration and licensing of physicians and surgeons provides that, if there has been an "imperfect registration" through some technical or unintentional omission, the board of regents may, in the manner therein prescribed, "make valid the previous imperfect registration." But this provision, the fourth appellate division of the Supreme Court of New York holds, in the case of Ottaway vs. Lowden, is not retroactive in effect. This was an action to recover for medical services. When the services were rendered the plaintiff possessed no license, and had no authority to prosecute his calling. He claimed that his imperfect registration from his failure to get his diploma from a medical school in another state properly indorsed had been validated under said Section 148. This validation, however, occurred after the services in question were rendered, and the court holds it insufficient, not being retroactive, to authorize the maintenance of this action. It says that the state board cannot endue one with a cause of action where none existed before. It may do away with the necessity of any further license or registration by injecting life into papers already filed, and give one a "clean bill of health" for the future; but that under this act is the extent of its authority. This interpretation, the court admits, may operate as an injustice in a particular case, but the statutes, it goes on to say, are a safeguard both to the public and those engaging in the practice of physic and surgery, and should be rigorously enforced. During the time the services in question were rendered the plaintiff was liable to indictment and conviction for practicing physic and surgery without proper warrant. If this act were to be given a retroactive effect, there would be the anomalous condition of affairs whereby he could recover for services the rendition of which by him constituted a crime. There is no warrant in the law for the state board to determine that he in fact during all this period was licensed to practice.

Postponement of Marriage for Venereal Disease.—The principal question before the Supreme Court of Missouri,, Division No. 1, in the breach of promise case of Trammel vs. Vaughan, was whether the defendant had a right to postpone marriage with the plaintiff upon the appearance between the date of the contract and the date for its performance, apparently without his fault at that time, of what he denominated a loathsome venereal and contagious disease; in other words, stated broadly, whether the defendant would have been justified in marrying the plaintiff, even with her consent, while he had the disease. Of course, the court says, if the defendant entered into the contract knowing of such an impediment to its consummation as a disease rendering it unsafe or improper for him to marry, it would be an aggravation of the plantiff's damages, and she would be entitled to refuse to marry him, and to treat his condition as a breach of the contract—a fraud perpetrated upon her. But, if the thing to be performed becomes unlawful, without his intervening fault, after the contract is entered into, the performance is excused by force of law. So, the court finds that, while there are few reported precedents for the conditions presented in this case, it has been held that if a party to a marriage contract develops a disease which renders it unsafe or improper for him to marry, without intervening fault on his part, between the date of the contract and the date appointed for the marriage, he is entitled to have the ceremony postponed until the result of the disease is known or he is cured. It also points out that marriage is not merely a civil contract, but one to which the state is a party and has an interest in, and one which implies that the contracting parties know of no legal or physical impediment to the contractual relation and its consequences. Then, it says that willfully to communicate a venereal disease is clearly cruelty, and is a ground for divorce, whether specifically enumerated in the statutory causes for divorce or not. It recalls, too, that it has been stated that intercourse with a woman, though she was willing thereto, by a man who was infected with a venereal disease, would constitute the act a common assault, for the fraud would vitiate the consent. Now, if these principles be correct, it must also be true, the court holds, that it is legally as well as morally wrong for a man, while infected with such a disease, to marry; and a man, for such cause, is entitled to demand a postponement of the marriage until he is cured. The idea that the ceremony should be performed, and the consummation of the marriage postponed until he is cured, it continues, is not only intolerable, but obnoxious to a proper subservience of the public interests and morals. This, too, whether the woman knows his condition, and consents to such an arrangement, or not; for, though she may be willing to waive the defect, or be indifferent to the condition or its consequences to her and her children, the third party to the contract, the state, has a right to and does object. If the disease is of a temporary character, and can be easily cured, the defendant is entitled to postpone the marriage until he is cured; and, if the disease is of a permanent character, he is not only entitled to refuse to carry out the contract, but it is his duty to do so.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, Dec. 22.

1 *The Treatment of Supra-Condyloid Fracture of the Humerus. A. R. Shands.
2 A Case of Superimposed Uvula. Thomas A. Deblois.
3 *The Combination of a Plaster-of-Paris Jacket with a Brace to Correct and Retain Correction of the Kyphosis of Pott's Disease of the Spine. A. MacKenzie Forbes.
4 *Recrudescing Angina, Due to Friedlaender's Bacillus. Emil Mayer.
5 *Intraspinal Cocainization from the Anesthetist's Standpoint S. Ormond Goldan.
6 *The Diagnosis of Empyema in Children. F. L. Wachenheim.
7 A Report Upon One Hundred and Seventy Cases of Appendicitis. Robert T. Morris.

Boston Medical and Surgical Journal, Dec. 20.

8 *Remarks upon Questions Arising During the Removal of Fibroids, with Especial Reference to the Technique of the Operation. Maurice H. Richardson.

9 *The Value of the Hot Water Immersion Bath in the Treatment of Threatening Puerperal Eclampsia. Charles M. Green.
10 *A Plea for Larger Doses of Antitoxin in the Treatment of Diphtheria. John H. McCollom.
11 Case of Myasthenia Gravis Pseudoparalytica. W. E. Paul.

Philadelphia Medical Journal, Dec. 22.

12 *The Diagnosis of Calculous Disease of the Kidneys, Ureters and Bladder by the Roentgen Method. Charles Lester Leonard.
13 Acute Infective Endocarditis Following Vaccination; Recovery. Warren Coleman.
14 *The Use and Abuse of Zoological Names by Physicians. Ch. Wardell Stiles.
15 Primary Carcinoma of the Pancreas, with Reports of Four New Cases. Frederick A. Baldwin.
16 Angina Ludovici. G. G. Ross.
17 A Case of Deciduaoma Malignum. Joseph McFarland.
18 Composite Teratoma of the Ovary; Pathologic Report. Edgar Allen Jones.
19 Dermatomycosis Tonsurans. W. B. Reid.
20 A New Photographometer. John Milton Garrett.

Medical Record (N. Y.), Dec. 22.

21 *The Neuron Doctrine: Its Present Status. Charles L. Allen.
22 *A Few Remarks on the Use of Medullary Narcosis in Obstetrical Cases. Hugo Ehrenfest.
23 Perforation of a Typhoid Ulcer Without Fecal Extravasation; Operation Four Hours After the First Symptom; Recovery. E. G. Cutler and John W. Elliot.
24 *On the Treatment of Laryngeal Tuberculosis. Robert D. Cohn.
25 *Local Anesthesia in the Radical Operation for Inguinal Hernia. Leo B. Meyer.
26 Report of a Case of Fractured Liver. Seelye W. Little.
27 Fracture of the Clavicle, Resulting in Rupture of the Suprascapular Artery(?). H. T. Miller.
28 An Unusual Case of Nose-Bleed. G. W. Squires.
29 Dislocation of the Crystalline Lens in Immature Cataract. Norburne B. Jenkins.
30 An Epidemic of Typhoid Fever. Benjamin K. Hays.
31 The Removal of Thirty-five Screw Worms from the Nose. Hal Foster.

Medical News (N. Y.), Dec. 22.

32 *A Rapid and Simple Operation for Gall-Stones Found by Exploring the Abdomen in the Course of a Lower Abdominal Operation. Howard A. Kelly.
33 *Some Notes on the Treatment of Rheumatism. Alfred Stengel.
34 *Report of Two Cases of Sporadic or Family Trichinosis; With Remarks on the Importance of Eosinophilia in the Peripheral Circulation as an Aid to Diagnosis. Herman C. Gordinier.
35 *The Surgery of the Gasserian Ganglion. Wallace Neff.
36 The Treatment of Bronchitis in Infants and Young Children. Samuel S. Adams.
37 Fatal Angina Pectoris Without Lesions of the Coronary Arteries in a Young Man. T. E. Bullard and William Osler.

Cincinnati Lancet-Clinic, Dec. 22.

38 *Post-Mortem Examinations. W. D. Haines.
39 Brain, the Chief Organ of Mind. Brooks F. Beebe.

St. Louis Medical Review Dec. 8.

40 *Pathogenesis of Gall-Stones. Hugo Summa.
41 Paretic Dementia; Musculo-Spiral Palsy; Chorea Mollis. Charles G. Chaddock.

Medical Fortnightly (St. Louis), Dec. 10.

42 Medical Study in Berlin. Josephine Milligan.
43 *Post-Febrile Insanity and Its Treatment. Frank P. Norbury.
44 Diseases of the Stomach. (Continued.) J. M. G. Carter.
45 *Differential Leucocytosis. L. H. Warner.

Medical Age (Detroit, Mich.) Dec. 10.

46 Locomotor Ataxia; A Review of Some of the Recent Literature. H. R. Niles.
47 Professional Secrecy. Louis J. Rosenberg.

Virginia Medical Semi-Monthly (Richmond), Nov. 23.

48 *What Can Be Done to Enforce the New Medical Laws of Virginia. R. S. Martin.
49 Traumatic Popliteal Aneurysm. Hugh M. Taylor.
50 Some Remarks on the Use of Heroin in Phthisis, Bronchitis, Asthma, and Whooping-Cough. G. W. Mitchell.
51 Delayed Operations in Appendicitis. Joseph Price.
52 Treatment of Posterior Displacement of the Uterus. Stuart McGuire.
53 Remove the Special License Tax. J. Beverly Deshazo.

December 7.

54 *An Improved Appliance for the Treatment of Fracture of the Clavicle. J. W. Henson.
55 *Some Fallacies in Testing for Sugar in the Urine. M. D. Hoge, Jr.
56 *Drainage in Abdominal Surgery. J. W. Long.
57 Treatment of Compound Fractures. Southgate Leigh.
58 Surgical Indications in Purulent Ear Disease. A. D. McConachie.
59 The Rational Treatment of Hepatic Colic. H. Richardson.

Annals of Gynecology and Pediatry (Boston), December.

60 *Chronic Enlargement of the Spleen in Infancy. John Lovett Morse.
61 *Drainage in Abdominal Surgery. J. W. Long.

Cleveland Medical Journal, December.

62 A Case of Cretinism and Thyroid Extract. J. B. McGee.
63 Etiology of Appendicitis. Guy H. Fitzgerald.
64 Diagnosis of Appendicitis. Charles B. Parker.
65 The Prognosis of Appendicitis. Charles G. Foote.
66 Medical Treatment of Appendicitis. L. B. Tuckerman.
67 When Shall We Operate? Frank E. Bunts.
68 Operation in the Interval. N. Stone Scott.
69 Operation During the Attack. George W. Crile.

Brooklyn Medical Journal, December.

70 *Artificial Illumination. L. A. W. Alleman.
71 Historical and Critical Observations upon the Surgery of the Liver and Biliary Passages. George R. Fowler.
72 Abscess of the Liver. Walter C. Wood.
73 Tumors of the Liver. Russell S. Fowler.

Pennsylvania Medical Journal (Pittsburg), November.

74 Address in Obstetrics, Delivered at Medical Society of the State of Pennsylvania. Charles P. Noble.
75 Old-Time Treatment and Result of Typhoid Fever. W. H. Hartzell.
76 Lecturing Not Teaching. T. D. Davis.
77 Analogies Between Nervous and Electric Mechanisms. What is Nerve Force? J. Emmet O'Brien.
78 History of Typhoid Fever, with Statistics. James M. Anders.
79 Etiology of Typhoid Fever. Charles H. Miner.
80 Symptomatology and Diagnosis of Typhoid Fever. J. I. Johnston.
81 The Complications and Sequelæ of Typhoid Fever. H. A. Hare.
82 The Treatment of Typhoid Fever. Alfred Stengel.
83 Diet in Typhoid Fever. James Tyson.

Chicago Medical Recorder, December.

84 *Report on the Use of Nitrous Oxid as an Auxiliary to Ether and Chloroform Anesthesia. Fifty Cases. D. H. Galloway.
85. Skin Grafting. Edward H. Ochsner.
86. The Rational Treatment of Vesical Ulcer. F. Kreissl.
87. Abscess of Lung. Surgical Tuberculosis, Etc. Samuel L. Weber.
88 *New Points in the Anatomy, Histology and Pathology of the Rectum and Colon. J. Rawson Pennington.
89 *Case of Lupus Healed Under Treatment With Roentgen Rays. Wm. Allen Pusey.
90 Fracture of the Femur. W. A. Kuflewski.

Southern Medical Journal (La Grange, N. C.), November.

91 *Treatment of Compound Fractures. Southgate Leigh.
92 Report of Some Cases of La Grippe. J. W. P. Smithwick.
93 A Consideration of Some of the Conditions Due to an Excess of Uric Acid. J. W. P. Smithwick.

Journal of Nervous and Mental Diseases (N. Y.), December.

94 *A Case of So-Called Landry's Paralysis, with Autopsy. Sidney I. Schwab.
95 An Atypical Case of Multiple Sclerosis. Charles W. Burr and D. J. McCarthy.
96 *Note on the Occurrence of Multiple Neuritis and Beri-Beri in Alabama. E. D. Bondurant.

Ophthalmic Record (Chicago), December.

97 *The Effect of Converging Prisms on Our Notions of Size and Distance—An Experimental Study. Alexander Duane.
98 Listing's Plane and Listing's Law. Harold Wilson.

Medical Dial (Minneapolis), December.

99 On the Need of Sanatoria in the Treatment of Pulmonary Tuberculosis. J. H. Stuart.
100 An Unusual Accident in Intubation of the Larynx. H. A. Beaudoux.
101 The Physicians's Influence in re Vacation Schools. Helen C. Putnam.
102 Tobacco—Its Uses and Its Abuses. H. A. Minor.
103 One More Case of Apyretic Membranous Croup. A. E. Cordes.

Medical Bulletin (Philadelphia), December.

104 *Fracture of Elbow Joint—Sarcomatous Rectal Obstruction—Medullary Anesthesia. Ernest La Place.
105 Amyotrophic Lateral Sclerosis and Postero-Lateral Sclerosis. F. Savary Pearce.
106 The Treatment of Injuries and Deformities of the Bony Frame-Work of the Nose. E. B. Gleason.
107 Periosteal Tendon-Grafting in a Lisfranc Amputation for Gangrene. J. P. Mann.

Medical Council (Philadelphia), December.

108 Disorders of the Sexual Functions in Man. A. H. O. Leuf.
109 Clinical Cases from Practice in India. Interesting Cases of Multiple Scrofulous Glands; Guinea Worm; Ancient Multiple Dislocations; Leprosy; Insanity; Post-Partum Malarial Hemorrhage. Bertha T. Caldwell.
110 A Case of Central Pneumonia, Probably of Pythogenic Origin. John A. Robison.
111 Dilatation of the Cervix for Uncontrolled Vomiting. John E. Wilson.

112 The Female Bladder. A. L. Russell.
113 Preliminary and Minor Railway Surgery. J. M. Salmon.
114 The Prepuce: What Shall We Do With It? E. K. Macomber.
115 The Treatment of the Lying-in Woman. E. L. Paulding.
116 A Case of Placenta Previa Without Hemorrhage. Harriet E. Garrison.
117 Treatment of Diseases of the Nose, Throat and Ear by the Family Physician. E. B. Gleason.
118 Gonorrhea and Marriage. C. C. Mapes.

Archives of Pediatrics (N. Y.), December.

119 *Fetal and Infantile Typhoid. John Lovett Morse.
120 *Pulmonary Tuberculosis in Infants and Children. Frank Parsons Norbury.
121 *A Report of One Hundred and Eighty-seven Cases of Measles With Reference to Koplik's Spots and Their Value in Diagnosis. John J. Cotter.
122 *Poisoning by Vapo-Cresolene. S. S. Adams.
123 Fatal Intestinal Hemorrhage Without Known Cause in an Infant of Five Months. Maurice Ostheimer.

International Journal of Surgery (N. Y.), December.

124 The World's Debt to Surgery. Henry W. Roby.
125 The Technique of Surgical Gynecology. (Continued.) Augustin H. Goelet.
126 Asepsis and Antisepsis. James E. Davis.
127 Simple Operation for Hemorrhoids—Enucleation. J. Rawson Pennington.
128 Regional Minor Surgery. (Continued.) George G. Van Schaick.
129 Some Surgical Methods in the Treatment of Gall-Stones, with Cases. Beverly MacMonagle.
130 Local Treatment of the Genito-Urinary Mucous Membrane. Jacob R. Johns.

Colorado Medical Journal (Denver), November.

131 *Ligature of the Innominate for Aneurysm of Right Common Carotid and Subclavian. Albert L. Bennett.
132 *Pulmonary Embolism, With Report of Cases. F. E. Waxham.
133 *The Use of Creosotal in the Treatment of Acute Lobar Pneumonia. B. B. Frankle.
134 *Some Pathological Conditions Characterized by the Presence of the Yeast Fungus. Clinton G. Hickey.
135 Variola, Smallpox. W. W. Woodring.

Denver Medical Times, December.

136 *Diagnosis of Stone in the Kidney. H. D. Niles.
137 *Compound Fractures of the Lower Jaw, Clavicle and Frontal Region. J. F. Spelman.
138 Shall the Family Physician do Refraction? John A. Donovan.
139 Variola—Smallpox. W. W. Woodring.
140 Clinical Significance of Tremor. S. D. Hopkins.

Peoria Medical Journal, December.

141 The Diagnosis of Surgical Diseases of the Kidneys. James E. Coleman.
142 The Local Medical Society. J. M. McClanahan.

Kansas City Medical Index-Lancet, December.

143 The Principles of Diagnosis of Lesions of the Brain. John Punton.
144 Charity Organization. B. E. Shawhan.
145 Proprietaries and Prescription Writing. S. H. Blakely.
146 Two Fracture Cases With Medicolegal Aspects. George A. Boyle.

Hot Springs Medical Journal, November.

147 *The Philosophy of the Science and Art of Medicine. W. F. Barclay.

Texas Medical News (Austin) November.

148 [illegible] J. Bennett.
149 [illegible] in Relation to the Diagnosis of [illegible] F. Bernhart.
150 The Treatment of Fractures of the Clavicle. G. M. Hackler.
151 The Report of a Case of Mastoid Disease. Edgar D. Capps.

Columbus Medical Journal, November.

152 *The Use and Place of Caustics in the Treatment of Malignant Diseases. S. B. McGavran.
153 Treatment of Simple Chronic Catarrh of the Nose. Daniel A. Berndt.
154 General Paralysis of the Insane. George Stockton.
155 The Specialist and the General Practitioner. George M. Clouse.
156 *Traumatic Injuries of the Cranium and Insanity. E. G. Carpenter.

Memphis Medical Monthly, December.

157 Occupation Neuroses. B. F. Turner.
158 Report of a Case of Diffuse Scleroderma. S. Smith Terrill.
159 Three Cases of Intestinal Surgery. E. A. Neely.
160 Scalp and Skull Injuries. Jere L. Crook.
161 Some Interesting Cases Occurring in General Practice. G. H. Wood.
162 The Care of the Perineum During and After Labor. Alfred Moore.

Atlanta Journal-Record of Medicine, December.

163 The Treatment of Osteo-Arthritis and Rheumatoid Arthritis of the Feet, Knees and Spine. Michael Hoke.
164 The Physiological Therapeutics of the Borderland of Insanity. C. A. F. Lindorme.
165 *Excision of the External Carotid Artery in Cases of Inoperable Malignant Diseases of the Face. William P. Nicholson.

Texas Medical Journal (Austin), December.

166 Modern Medical Training. H. P. Cooke.
167 General Medicine. J. H. Joyce.
168 Report of Chairman of Section on Obstetrics and Gynecology, Central Texas Medical Association. A. R. Kuykendall.
169 The Preparation of the Lying-in Patient and the Management of Normal Labor. J. H. Alexander.

Medical Times (N. Y.), December.

170 The Value of Antiseptic Nebulæ in Pulmonary Tuberculosis. Homer M. Thomas.
171 The Treatment of Bronchopneumonia. William Fitch Cheney.
172 Hysterical Temperature. W. F. Boggess.
173 A Case of Acquired Cretinism Treated With Thyroid Extract. Herbert W. Foster.

AMERICAN.

1. **Supracondyloid Fracture of the Humerus.**—The prognosis of these fractures heretofore has been bad as regards motion of the joint, and Shands gives his views on the improved methods of treatment. The most important point is knowledge of the position of the fragments, and the X-ray offers us this. His method is to drill holes through the fragments and suture them in position with kangaroo tendon, excepting in cases where the fracture is oblique, where he uses a drill long enough to project through the dressing, until the end of the second week, perfect asepsis being employed. His experience and observation convinced him that this method is the correct one and the sooner it is generally adopted the fewer stiff and deformed elbows we shall meet with. He reports three cases, illustrated by skiagrams.

3. **Kyphosis.**—The apparatus here described by Forbes is practically a lever whose lower extremity is the fulcrum and upper extremity the power, but the resistance is at the kyphosis. This can be made to exert pressure at the fulcrum or at the point of kyphosis and thus tend to draw the diseased bodies of the vertebræ apart and extend the whole vertebral column above that point, transferring the superimposed weight of the bodies to the transverse processes of the vertebræ and thus reduce the kyphosis. In addition it will perfectly immobilize the vertebral column and by preventing attrition place the parts in the most favorable position for the arrest of the diseased process. The methods of its employment are given and the author states in detail what he considers to be its advantages.

4. **Recrudescing Angina.**—From a study of several cases, together with those he has found in the literature, Mayer arrives at the following conclusions: 1. That anginas due to the bacillus of Friedländer may exist in a subacute or chronic form. 2. They occasion no distress, except perhaps in the beginning of the membranous deposit. 3. They may appear in membranous form, exfoliating and recurring. 4. In the chronic form treatment seems to be of no avail, the bacilli eventually becoming much less active, and the condition ceases by limitation. 5. They are probably much more frequent than the few recorded cases seem to indicate.

5. **Intraspinal Cocainization.**—Goldan reports experience and operations of this method from the standpoint of the anesthetist. He thinks more fluid, if anything, is injected than is lost by the puncture. He sees no special advantage in obstetrics over chloroform, and thinks that it has been used needlessly in many minor cases. He notices inconvenient effects and warns against puncture of the spinal cord, which he thinks may be dangerous, and an accident of this sort should be carefully avoided. The symptom of shock is very pronounced in these cases and its intensity can only be compared with profound chloroformization. He sees no advantage in the matter of speed in the operation, and many disadvantages, and asks in conclusion whether the use of the method may not be a step backward rather than forward.

6. **Empyema in Children.**—Wachenheim reviews the special signs of this condition in children, the chronicity, the temperature curve, rapid feeble pulse, percussion and ausculta-

tion signs, and remarks that the ordinary physical methods are more or less unreliable in young children and we never can feel certain of our diagnosis after employing them alone. The most important recourse is exploratory puncture, and he considers the risks of this very slight. The danger of puncture of the lung is, he believes, imaginary.

8. **Uterine Fibroids.**—The questions specially noticed by Richardson are: Need of thorough *preliminary examination*; the condition of the kidneys; difficulties of palpation upon a conscious patient; the importance of vaginal examination before operating, which can be made aseptic if care is taken; the element of time in the operation and the need of speed and yet caution; avoidance of anything like carelessness or undue speed where caution is required; the recognition of the intestines and other organs; the condition of the ureters, the choice of operation between hysterectomy and myomectomy with special reference to the future of the patient. The technique of the operation of myomectomy is described too fully to be here reproduced.

9. **Hot-Water Immersion in Puerperal Eclampsia.**—The general principles on which eclampsia should be treated are attention to the conditions of toxemia, maintenance of stable nervous equilibrium, due elimination by other organs as well as kidneys, and Green advises an exclusive milk diet when the kidney is at fault, diaphoresis and cutaneous stimulation by heat. The hot-air bath is most appropriately used in the treatment of actual eclampsia, as the patient is then comatose and unable to help herself, and hot-water immersion is impracticable. The hot-water pack is often effective, but when circumstances permit, the hot-water immersion bath is most satisfactory. It not only causes profuse diaphoresis and reduces blood tension, but is a nervous sedative itself. The water should be as warm as can be borne. The patient should remain in it until profuse perspiration of the face shows that the sweat glands are in full activity, and friction with the flesh brush is also advisable. When free perspiration has been induced the patient should be rolled in a blanket, placed in a warm bed and covered with several blankets, and perhaps a rubber sheet. It should be remembered, however, that a hot bath is a powerful agent in the induction of labor. It should not be used unless labor is imminent. There should be an ample ingestion of liquids with free diaphoresis. The paper concludes with a report of three cases of this treatment with benefit.

10. **Diphtheria Antitoxin.**—McCollom's article shows the effect of the antitoxin treatment in several cities, the ratio of morbidity from diphtheria in Boston and the percentage of mortality by age in London and in Boston. His conclusions from the observations of nearly 8000 cases are as follows: 1. That the ratio of mortality of diphtheria per 10,000 of the living was very high in Boston previous to 1895. 2. That the ratio of mortality per 10,000 has been very materially reduced since the introduction of antitoxin. 3. That the percentage of mortality in the South department is lower than that of any of the hospitals taken for comparison. 4. That since larger doses of antitoxin have been given the death-rate has been materially reduced, this reduction having occurred in the apparently moribund cases. 5. That no injurious effect has followed the use of the serum. 6. That to arrive at the most satisfactory results in the treatment of diphtheria, antitoxin should be given at the earliest possible moment in the course of the disease.

12. **Calculi.**—Leonard argues for the Roentgen rays in detecting calculi, especially in the kidneys, ureters and bladder, and while detection of vesical calculus is generally easy by the ordinary methods, there are applications of this method that are especially useful. He thinks that the perfection of the technique will render this method still more valuable in diagnosis.

14. **Zoologic Names.**—The use and abuse of zoological names by physicians are dwelt upon by Stiles, who, while he does not claim that all physicians should be familiar with the rules of zoological nomenclature, believes that they generally take too many liberties with it; for example, the hydatid echinococcus is suffering from not less than sixty names, and the unarmed tapeworm has about forty names. He protests also against the changing of the spelling of zoological terms. This may seem trifling to the physician, but it is of importance for scientific accuracy when speaking of zoological subjects. For example, *tænia* may be another animal from tenia, and tinea is zoologically a moth and not a parasitic worm, nor is there any possible zoologic ground for the use of the term ameba. He concludes his paper with the following thesis: It is incumbent upon physicians to follow zoological customs in dealing with zoological subjects, as it is incumbent upon zoologists to govern themselves by the code of medical ethics in dealing with medical cases.

21. **The Neuron Doctrine.**—Allen concludes his article with the general statement of the findings of Golgi's method and the very apparent separation of the neuron units one from another. He says it seems to be no more proved that the Golgi and methylene-blue methods give deceptive results than do those of Apathy and Bethe, which have not had anything like so wide an application as the former, and more extended observations are required before we can throw overboard so favorable a hypothesis as the neuron doctrine. There is a *great deal of difference as to just what the neuron means* among authorities, and there are many who have not admitted an entire lack of continuity between the elements. Then if we should admit Apathy's view to be correct, it is not necessary for us to abandon the neuron. Its embryology is not affected. It may be necessary to modify our views somewhat, but the conception as a whole as a means of explaining certain facts is hardly to be given up.

22. **Medullary Narcosis in Obstetrics.**—Ehrenfest, after reviewing authorities, thinks that there is a possible future for the operation. If, however, we should be obliged to use instrumental delivery more often with it, it would seem a possible contraindication. As a substitute for other forms of narcosis it may be of value: if future work establishes the fact that these subarachnoidean injections are free from danger they may add some advantages in cases where heart failure, nephritis, etc., contraindicate the use of chloroform or ether. On the whole, however, it seems to be more than doubtful whether we are justified in recommending it as a substitute for light chloroform narcosis: the latter is always sufficient in the usual run of cases.

24. **Laryngeal Tuberculosis.**—Cohn would divide laryngeal tuberculosis into three stages: 1. Excepting circumscript infiltration or ulceration, the larynx is healthy. In this stage the treatment consists in curettage if infiltration be present and in cauterization with lactic acid if ulcer exists. If the general condition including the lungs be good, these procedures are imperative, and must be repeated at intervals of one to three weeks until the diseased tissue is completely removed. In the second stage, where extensive infiltration or ulceration exists we can not expect a complete cure and our main aim is to prevent secondary infection. The mildest method is by means of antiseptic inhalation; whether we use 1 to 3 per cent. carbolic acid, 2 to 4 per cent. boracic acid, or 1 to 2 per cent. lysol, is of no consequence. If the epiglottis permit an inspection of the larynx, the antiseptic swab is still better and a 10 to 30 per cent. solution of menthol in olive oil. If we see the case in its last pitiful stage all we can do is to treat it symptomatically. Administer a morphin powder before each meal, or better still, apply a 20 per cent. solution of cocain to the pharynx. In impending suffocation, tracheotomy, of course, is necessary. The general treatment corresponds closely to that of tuberculosis.

25. **Local Anesthesia in Hernia.**—Meyer thinks the advantages of this method of operating are slight as compared with the pain and discomfort produced. He does not wish to be understood as unqualifiedly condemning it, but wants to define its limitations. Its only real advantage is the removal of the element of danger of general anesthesia, and that very seriously limits its employment.

32. **Gall-Stones.**—The operation, here described by Kelly, is feeling for the gall-bladder through the lower incision of the abdomen, pressing out its contents and, if the stone is present, pressing it up against the abdominal wall and cutting down on it. The gall-bladder is drawn well up to the peritoneal incision and there is no danger of contamination with the bile. The pressure holds the tissues from below and keeps them anemic, and the skin, fat and muscle are separately divided. The peritoneum is easily recognized, and on reaching this layer a little nick is made and the two edges caught with mosquito forceps; as the peritoneal incision is made a little larger, the gall-bladder with the stone appears in the incision, is opened and its edges caught, as the incision is made large enough to evacuate its contents. The edges of the gall-bladder after the removal of the stone are united with fine silk sutures while held up by four of Halsted's delicate mosquito forceps, the suture beginning at one end of the incision and continuing to the other embracing all the coats but the mucosa. The same suture is then continued back to the starting-point as a quilted suture, burying the first layer when the ends are tied together. If the gall-bladder is normal he does not hesitate to drop it without a drain, but if it is diseased he closes with an interrupted suture and inserts a small drain provisionally. The abdominal wound is then closed and the operation complet within a few minutes of its commencement. Several cases are reported operated on in this manner, showing its advantages.

33. **Rheumatism.**—Stengel remarks, after studying the bacteriologic nature of rheumatism, that it is important to recognize several fundamental facts as regards treatment: 1, the tendency in many cases towards spontaneous recovery; 2, complications, such as endocarditis, pleurisy, pericarditis, etc., are frequent and more likely to occur in protracted cases than in those of short duration; 3, the complications are probably, as a rule, secondary to joint disease and not to the infective lesion—such as tonsillitis—that was the primary focus, consequently the severity of the local joint lesion bears a relation to the likelihood of the development of the complications. He states these facts as probable, not as absolutely proved. Of the drugs used in the treatment of rheumatism, the salicylates hold the first place, and if they are not specific in their action they at least relieve pain. He also mentions as another valuable method, fixation by splints of plaster, which he thinks is often the best method of producing rest for the parts. He has used the plaster cast considerably in gonorrheal and polyarticular types and thinks its beneficial effects are immediate. In polyarticular rheumatism it has been most useful when the knee, elbow and ankles have been affected. The wrists and smaller bones can be managed with splints and in other ways quite as satisfactorily. In some cases of rheumatism, where rebellious to treatment with the salicylates and rest and the general condition is unsatisfactory, tonics are advisable, and in a number of cases of this sort he has employed small doses of bichlorid of mercury with good result and attributes this to the tonic influence of the drug. It seems to be of value as a stimulant of hemogenesis or as a tonic, not as an antiseptic. Other tonics may be of use, such as iron; strychnia and the iodids are of undoubted value in some chronic cases. In conclusion, he mentions the serum treatment, and he has made a few trials of antistreptococcic serum in cases of obstinate rheumatism in which improvement soon followed the injection. The dose was one-third the customary amount employed in streptococcic infection and the remedy was administered every other day for a week or more, when ordinary treatment was resumed. While conclusions would be rash from this limited experience, he thinks the method deserves further trial.

34.—See abstract in THE JOURNAL, XXXV, p. 1105.

35. **Surgery of the Gasserian Ganglion.**—Neff notices the history of the operations on the Gasserian ganglion and the methods, and concludes his article as follows: 1. Trigeminal neuralgia is an ascending neuritis, peripheral in origin. The second and third branches, rather than the first, are the ones most likely to be involved. 2. If the disease persists after several months' trial with drugs, electricity, etc., surgical intervention is indicated. 3. If only one branch is involved and the disease is not of long standing, as much as possible of the affected branch should be removed with a view of relieving pain and preventing the upward progress of the disease. 4. If more than one branch is involved, and the pain is severe and has persisted for a long time, the ganglion should be extirpated, all other means having failed. 5. The temporal route should be followed, the Hartley-Krause, or preferably, Cushing's modification of it, being the most rational procedure. 6. Pain will not recur with original severity in more than 1 or 2 per cent. of the cases operated on, or in any degree in more than 4 or 5 per cent., and is invariably due to an incomplete operation. 7. It is important to remove the ganglion and its branches intact in order to be certain of the completeness of the operation and to insure a careful and thorough microscopic examination of the specimen. 8. The present mortality is about 10 per cent. Increased experience and an improved technique will undoubtedly diminish this mortality, and dissipate the risks of this hitherto most formidable, difficult and dangerous operation.

38. **Post-Mortem Examinations.**—The paper by Haines insists on the importance of thorough work in the post-mortem; we must look always for everything that exists. He notices particularly the staining of the body as indicating the positions in which it has laid, as it often happens that the body has been removed before seen by the physician. The subjects of atheromatous change are especially prone to early, rapid and extensive post-mortem staining and he attaches great value to this, and mentions cases to show that it may appear even before death. Other points mentioned are the conditions of the mucous membrane of the mouth, which are of value but sometimes deceptive, post-mortem rigidity, insufflation of lungs, post-mortem vesicles, and the need of examining the pharynx and larynx for obstruction. He says the post-mortem room is the sarcophagus of snap diagnoses, the abode of disappointed expectations, but a Mecca to him who will improve his knowledge.

40. **Pathogenesis of Gall-Stones.**—Summa offers the following conclusions of his article: 1. The causation of gall-stones is a very manifold one. The sooner we abandon the natural desire to search for an etiology common to all gall-stones the sooner we shall approach the truth. 2. The formation of gall-stones requires a union of at least two factors. 3. Notwithstanding all the efforts made thus far, there are still a number of etiologic factors unknown to us. 4. Our knowledge of the chemical changes in the bile and of the anatomic changes in the gall-bladder in various, particularly febrile, diseases should be enlarged. 5. One, and surely a very important, group of gall-stones is apparently due to the combined effect of temporary impediments in the outflow of bile and lithogenic catarrh of the biliary system. The chief material of these gall-stones, cholesterin and lime salts, is not derived from the bile, but from the destruction of the epithelial cells of the mucosa. 6. Such gall-stones deserve their name "gall-stone" only on account of the locality they are found in. 7. Upon the common sense the question forces itself, why do the same factors, temporary stasis and lithogenic catarrh in other places, as, for instance, salivary ducts, pancreas, pelvis of kidney and urinary bladder, not form similarly composed stones? He leaves the answer of this question to the unconditional admirers of Naunyn's theory.

43.—This article has appeared elsewhere. See THE JOURNAL, XXXV, p. 204.

45.—See abstract in THE JOURNAL, XXXV, p. 1050.

48. **Virginia Medical Laws.**—Martin discusses the medical laws of Virginia as compared with those of other states in relation to the question of reciprocity. He thinks the law *is not sufficiently enforced*, and he wrote a series of inquiries which he sent out to examining boards of twenty-five different states, and gives briefly the substance of these replies. In North Carolina there is no trouble apparently in having medical laws enforced. The profession and the laity alike are interested in their enforcement. In South Carolina the rever is the case. In Kentucky, Colorado, New York, New Ha

shire and Wisconsin the enforcement of law seems to be fairly easy and thorough. In West Virginia, Maryland, Pennsylvania, Connecticut, Massachusetts, Tennessee, Indiana, Mississippi, and to some extent in Iowa, there has been more or less difficulty, due either to popular and professional apathy on the subject or to the vagaries of the courts in regard to irregular pretenders in medicine. In some of these states, however, the condition is improving. In Virginia he finds that they do have trouble and the difficulty is largely in securing prosecution of irregular practitioners and in the coöperation of the profession. There are some men who fail before the board and go home and practice, and there is another class who never take the trouble to appear. The examining board of Virginia is undoubtedly thorough and fair in its methods, but with these conditions its functions are seriously limited. He thinks the profession needs to see to not only the enforcement of the present law, but as to possible legislation which may impair it.

54. **Fractured Clavicle.**—Henson describes an appliance rather too elaborate in its details to be reproduced here, which he claims renders the parts immobile and uses the scapula as a factor in the management of the outer fragment better than other methods heretofore in use. It is perfectly comfortable and never slips or gets displaced without interference on the part of the patient.

55. **Tests for Urine.**—Hoge mentions certain past fallacies in the ordinary test for sugar, such as the use of chloral or the excess of creatinin in the urine, both of which will reduce copper and give the same reducing color. Urobilin also, when in excess, will reduce copper. In the Moore or Heller test a small quantity of sugar, less than one grain per ounce, is not detected, and if the patient is taking rhubarb or senna the urine will give a dark-brown color or cast. Certain substances in the urine, such as urea, urates, uric acid, creatinin, indican, urobilin and arsenic, tannic acid, carbolic acid, gallic acid, camphor, copaiba, salicylates, turpentine, glycerin and some alkaloids when administered internally will produce more or less reduction of copper. The objections to the Bottger test are due to the presence of albumin, pigmentation, mucin and other substances containing sulphur, which need first to be removed. Roberts' fermentation test is the surest and freest from error. The only objection to it is the length of time required. He gives the tests for creatinin, urobilin and indican.

56.—See abstract in The Journal, xxxv, p. 1425.

60. **Splenic Enlargement in Infancy.**—Acute splenic tumor occurs in infants, as in adults, in connection with acute infectious disease, and the enlargement is proportionately greater than in later life. Splenic tumor is much more common in infancy, occurring not only under the same conditions as in adults, but in many others. Not only do we have it in combination with leukemia, liver cirrhosis and malaria, all rare in children, excepting the latter, but especially in connection with rickets and hereditary syphilis. Both of these are frequently associated with anemia, and cases are reported illustrating these facts. The enlarged spleens in children reported by Morse are of interest. They disappear rapidly with improvement of the condition. His experience with hereditary syphilis has not been sufficient to warrant any conclusions, but he thinks it also disappears in this condition under treatment.

61.—See abstract in The Journal, xxxv, p. 1425.

70. **Artificial Illumination.**—The various methods of lighting are described and criticised by Alleman, who finds that the present methods are very unsatisfactory and the arc light the worst of all. He suggests as an improvement the concealment of the light itself and its reflection on the ceiling of the room, thus producing a diffusion which simulates, as far as possible, the diffusion of daylight. If it is possible to sufficiently light the room in this way, reading can be done in all parts with less fatigue and damage to the sight. He thinks that when a single light is used for reading purposes the best plan is the use of a translucent shade. An insufficient reading light is less harmful than the extreme contrast of a bright light in a dark room.

84. **Nitrous Oxid Anesthesia.**—Galloway reports the results of fifty cases of the combined use of nitrous oxid and ether, the former being used as a preliminary in the anesthesia. He thinks the advantages of the method entitle it to more extended use. They are: 1. That they give rise in the majority of patients to no unpleasant sensations. 2. Time required to produce unconsciousness is 50 to 60 seconds in the majority of cases and the patient is ready for the operation in two to three minutes. 3. It requires less ether by from 2 to 4 ounces. 4. Recovery is more rapid after operation, on account of the smaller quantity of ether required. Nitrous oxid alone may be used for short operations. In very few of these cases does it produce any alarming cyanosis, and with care these symptoms, should they occur, will not be serious.

88. **Rectal Valves.**—This paper of Pennington covers in part the same subject as that of his article published in The Journal xxv, p. 1520.

89.—See The Journal, xxxv, p. 1476.

91. **Compound Fractures.**—Leigh emphasizes the following points in the treatment of compound fractures: 1, free opening of the wound; 2, removal of all useless torn tissues; 3, thorough disinfection; 4, good coaptation of bones; 5, loose closing of wound; 6, firm pressure dressing; 7, constitutional treatment. He believes that attention to these points, together with good nourishing food and plenty of it and plenty of fresh water, mild cathartics, and the use of lime, which he has given in the form of syrup lactophosphate of lime, to replace the bone cells, will give good results.

94. **Landry's Paralysis.**—Schwab reports a case of Landry's paralysis with post-mortem in which the nerve cells were found normal, or at least the slight variations can be explained by pre-agonal or post-mortem chromatolysis. There was an absence of degeneration in the cord, and of neuritis; there was no myelitic process of softening or purulent inflammation and no meningitis. The positive findings were limited to the blood-vessels and the perivascular lymph-spaces alone, and consisted in a tremendous vascular congestion, thinning of the vessel walls due to this increased pressure, and hemorrhage with escape of free blood into the nervous structure, and possible increase in the number of vessels. There were no inflammatory products and no demonstrable disease of the vessel walls other than the thinning mentioned. Schwab suggests that possibly these hemorrhages are artefacts due to mechanical obstruction of over-full vessels while making sections, but against this is the fact that some of them show evidence of long duration and the hemorrhages are too frequent, and occur independent of the plane in which the sections were cut. There are two theories, both of which only partially account for the symptoms and neither is satisfactory. According to the first, the symptoms might be due to the effect of pressure of the free blood on the nervous structure. The number of the hemorrhages and their distribution favor this idea as well as does their prevalence in the upper portion of the cord, but against it are the great number of hemorrhages of recent date and the absence of the effect of old hemorrhages, such as fibrin, blood crystals, pigmentation, etc. The second theory is that a toxic process produces in the cord a condition very similar to that of non-purulent encephalitis affecting the nerve-cells of the anterior horns, but in such a minute way that their morphologic appearance could not be regarded as differing from the normal. In other words they were functionally affected. The absence of neuritis or degeneration would appear to strengthen this view, and the fever and constitutional symptoms can also be explained by it. The origin of the toxic process he traces possibly to old tubercular foci in the lungs. While not doubting the possibility of the parenchymatous nature of the process in certain other cases, in his he holds the preliminary change must have been an interstitial one. His view is that Landry's paralysis is not a distinct clinical type, but that it is an ascending paralysis comprising a group of symptoms depending on the most varied causes and with the most varied pathology, so that the name is only of clinically descriptive value.

96. **Beri-Beri.**—Bondurant first alludes to the epidemic of beri-beri that occurred several years ago in the State Insane Hospital of Alabama, and a similar one that occurred in 1895 in the Arkansas State Hospital at Little Rock. He has inquired among practitioners to find out whether the disease has been observed in other communities, but satisfactory evidence appears to be lacking, the cases being generally alcoholic, post-typhoid, multiple neuritis, etc. Multiple neuritis in the form of beri-beri, however, is very common in Mobile among the sailors in ships touching at that port; the Norwegian sailors seem specially affected and the port is dreaded on that account. It is noteworthy, however, that the disease is unknown among the local inhabitants and that it occurs in vessels that have been previously infected.

97. **Converging Prisms.**—Duane reports experiments on the effect on the vision of the converging prisms, especially as regards the notions of size and distance, and from it finds that in the great majority of cases—23 out of 28—the effect of converging prisms was to make the distant object appear either smaller or more remote, both in 17 cases, in 2 smaller, but not more distant, in 4 more distant, but not smaller; 2 of these last, however, were only examined with homatropin. Both apparent recession and apparent diminution increased *pari passu* with the amount of convergence. In some the recession appeared to be the primary effect, noticeable even with prisms too weak to produce any diminution in the size of the object, and in all more marked than the diminution. In other cases the diminution was primary and in only one instance, and that a dubious one, was the distant object alleged to look nearer, and in no instance was it reported as appearing larger, though there was an apparent exception in this which was corrected by further investigation. In a few cases in which there was no effect produced on the apparent size or diminution of the object across the room the amount of convergence employed was usually small, and analogy with other cases would lead us to suppose that with stronger prisms a decided effect would be produced both upon the size and distance. The effect on the apparent size and distance of objects seen through the converging prisms was less pronounced in those who from the start used little accommodation. On the other hand, the converging seemed marked to those whose sight at first was blurred by the excessive accommodation employed and cleared up afterward through relaxation of accommodation. Objects, as soon as they became distinct by relaxation of accommodation, appeared small and distant. The addition of a concave glass clearing up the sight that was blurred by the overplus of accommodation, had no effect on the apparent size and distance produced by the prisms. The effect of homatropin pushed to the point of complete relaxation of accommodation was in some cases to make the object appear farther off, but no smaller. In one case it apparently prevented the recession and diminution that had existed before. In 2 cases recession and diminution were marked both with and without homatropin. In 14 cases out of the 16 examined, the effect of looking through converging prisms at an object near by—18 to 30 inches—was to make it appear smaller, even with a very weak prism. The diminution of size was more marked than that of distance. Near objects generally looked more remote, though sometimes they looked nearer than they really were. With strong prisms the recession may be very pronounced. In all of the 6 cases examined under homatropin the near object looked either farther off or smaller, or both, and the effect was usually decided. The explanation of these facts, Duane remarks, is rather difficult, though the indications are that the accommodation, or the relaxation of an unnaturally tense accommodation, is the prominent factor in their production. He is inclined to think this disturbance of normal relations between the accommodation and convergence brought about by the use of converging prisms is chiefly responsible for the diminution in size that most persons see in this way. The relaxation that is also noticed seems apparently due to the same cause, but is considerably influenced by the effects of contrast and perspective. The psychic element must not be ignored, and accurate description is not possible to every one.

104. **Medullary Anesthesia.**—La Place reports, with other cases, one of fracture of the elbow-joint, one of spontaneous resolution of a sarcomatous tumor, and two cases in which medullary anesthesia was employed. In one, an aged man, 2 c.c. were employed. Anesthesia extended to the nipples in thirteen minutes. In the other case, however, twelve different attempts were made to reach the spinal cord with the needle and in no instance was it possible to extract any cerebrospinal fluid. There was no difficulty in introducing the needle, but there seemed to be an anomaly in the patient in this regard, nothing but blood could be withdrawn. He thinks possibly there was an obliteration of the sac in that region, due to old syphilitic infection. The patient was subsequently operated on with ether. The case is of interest on account of the failure to reach the subarachnoid space.

119. **Fetal and Infantile Typhoid.**—The possibility of fetal typhoid is discussed by Morse, who reviews the literature of the subject and sums up in the following: 1. The typhoid bacillus can traverse the abnormal, and possibly the normal, placenta from mother to fetus. Other organisms may also pass in the same way. 2. Infection of the fetus results. Because of the direct entrance of the bacilli into the circulation intrauterine typhoid is from the first a general septicemia. For this reason, and possibly also because the intestines are not functionating, the classical lesions of intrauterine typhoid are wanting. 3. The fetus usually dies in utero, or at birth, as the result of the typhoid infection. 4. It may be born alive, but feeble and suffering from the infection. If so, death occurs in a few days without definite symptoms. 5. It is possible that the fetus may pass through the infection in utero and be born alive and well. There is, however, no proof that this happens. 6. Infection does not always occur. The pregnant woman does not necessarily transmit the disease to her child. As regards infantile typhoid, that is, typhoid occurring under 2 years, he sees no reason why it does not occur; the probability should be greater the second year than the first. Nevertheless the statistics show that this is very rare or is unrecognized when it occurs. To demonstrate if possible whether typhoid really exists or is confused with gastrointestinal disorders of infancy Thayer and he examined the blood of 50 cases for serum reaction, in the summer of 1898, and in only one obtained a positive reaction. While the series is too small for definite conclusions, it supports the theory of the rarity of infantile typhoid. He goes over the literature of this subject also and offers the following conclusions: Except for the lessened exposure in the first year through food, there seems no obvious reason why typhoid should be less frequent in infancy than in later life. Nevertheless, judging from the small number of cases reported, it is less frequent. It may be really less frequent or only apparently so because the disease is not recognized, being mistaken for other conditions. Bacteriologic examinations in a large series of autopsies on infants and the use of the Widal serum test in a large number of sick babies seem to offer the best means for determining both the frequency and the character of the disease at this age. The accuracy of the diagnosis in many of the earlier reported cases must be regarded as very doubtful, and hence no satisfactory conclusions can be drawn from them. Analyses of the more recent and certain cases seem to show that the symptoms of infantile typhoid are essentially the same as in adults, but that the course is shorter and the mortality greater. These conclusions may be inaccurate, however, as it is possible that they are based on the severe cases alone, the milder cases having escaped notice. The pathologic changes in the intestines are, as a rule, insignificant. The contrast between them and the severity of the general symptoms is striking. The probable explanation is that in the infant, as in the fetus, but to a less degree, the disease is a general rather than a local infection. As regards the serum reaction, he thinks that it occurs in the infant as in the adult. There are no data available regarding its presence or absence in fetal typhoid. As regards transmission through the placenta, he reviews the literature and finds that the agglutinating principle may be transmitted in some cases and in most, not at all. The simple explanation of its not

occurring is that the placenta acting as a filter prevents the passage of the agglutinating principle, but the data are insufficient as yet to prove any theories. The transmission of the agglutinating principle through the milk is also discussed, and his general conclusions on the subject of serum reaction are as follows: The serum reaction occurs in infantile as in adult typhoid. There are no data as to whether or not it occurs in fetal typhoid. The agglutinating power may or may not be present in the blood of infants born of women with typhoid. If present, it is transmitted from the mother to the child through the placenta. It is possible, however, that it may be formed in the child in response to toxins transmitted through the placenta. The agglutinating principle can pass through the normal placenta. Part of it, however, is arrested in the passage. Whether or not it is transmitted seems to depend on the strength of the agglutinating power in the maternal blood and in the length of time during which the placenta is exposed to it. It may be transmitted to the nursling through the milk. It may appear in the infant's blood in less than twenty-four hours. The weakening of agglutinating power is due to the obstruction to its passage in the mammary gland and in the nursling's digestive tract. The chief factor governing transmission is the intensity of the power in the maternal blood. A subordinate but important factor is some unknown condition in the digestive tract. If the power in the maternal blood is weak and the obstacles great it may not be transmitted.

120.—See abstract in The Journal, xxxv, p. 1049.

121. **Measles.**—Cotter has investigated an epidemic of measles, including 187 cases, to ascertain the following points regarding the presence or absence of Koplik's spots: 1, whether they appear regularly; 2, whether they appear before other pronounced diagnostic signs; 3, to estimate their value in diagnosis. He found positive occurrence of spots in 169 cases, negative in 8 and doubtful in 10. Their absence was observed in poorly nourished children of the marantic or rickety type, or with the taint of hereditary or acquired syphilis. A very small percentage of otherwise healthy children did not show the Koplik spots at any stage of the disease. Two of the 8 were of this character. As regards the time of appearance they occurred with fever and skin eruptions in 78 cases. They appeared one day before the skin eruption in 54, two days before in 25, three days in 4, four days in 3 and five days in one and in 2 cases one day after the eruption. In one case also they appeared with no skin eruption. He is inclined to think from his observations that when measles reaches the stage of appearance of this symptom exposure to other children has been great, but he admits their extreme value as a diagnostic point and knows of no other disease than measles that presents them.

122. **Vapo-Cresolene.**—Adams reports two cases of poisoning from inhalation of the fumes of a vapo-cresolene lamp and reports these because this disinfectant is often used where there is a child that has a cough, and frequently, he thinks, with great risk to it.

131. **Ligature of Innominate.**—Bennett reports an additional case to the twenty-nine already published, of which he gives a summary. His operation was made in the French Congo territory on a native, and the results seemed to be good until the third day, when secondary hemorrhage occurred, carrying the patient off.

132.—See abstract in The Journal xxxv, p. 448.

133. **Creosotal.**—Frankle has found in a few cases of acute lobar pneumonia, creosotal, which is simply a fanciful name for pure and modified forms of creosote carbonate, containing 92 per cent. of creosote, to give apparently valuable results. The cases were all of average severity, with the usual complications, ranging in temperature from 102 to 105. After a preliminary 10-gr. dose of calomel, creosotal was administered in dram doses night and morning and nitroglycerin given as required. The results were diminution of temperature without cardiac depression, a liquefaction of the exudate, general stimulation of all the emunctories and relief from previously existing pain. All the patients got well by gradual defervescence. He thinks the remedy is worthy of a more extended trial.

134. **Yeast Fungus.**—Three cases of apparent diphtheria are reported by Hickey in which the cultures revealed nothing but yeast cells in two; the other, occurring at the same time though less severe, was not examined. The clinical symptoms were very like those of diphtheria, but there was no very extensive glandular enlargement in any of the cases and practically none at all in two.

136.—See abstract in The Journal, xxxv, p. 707.

137.—Ibid.

147.—See abstract in The Journal, xxv, p. 1050.

152. **Caustics in Malignant Disease.**—McGavran believes that caustics have no place in the treatment of cancer of the tonsils, tongue, eyelids, scrotum, penis and rectum, nor would he use them in cancer of the breast or uterine cancer. All objections to caustic treatment disappear when we come to consider cutaneous cancer, and he reports five typical cases of facial eruptions successfully thus treated. The choice of proper escharotics is of great importance. A mild caustic should never be employed. Nitrate of silver and mineral acids should never be employed. Caustic potash, arsenous acid, and chlorid of zinc have given the best results. The one which has given him the best results is Bougard's caustic compound, as follows: Wheat flour, 60 grams; starch, 60 grams; arsenic, 1 gram; cinnabar, 5 grams; sal ammoniac, 5 grams; corrosive sublimate, 0.50 gram, solution of chlorid of zinc at 52 F. .245 grams. The first six substances are separately ground and reduced to a fine powder. They are then mixed in a mortar of glass or china, and the solution of chlorid of zinc is slowly poured in, while the contents are rapidly moved with the pestle, so that no lumps shall be formed. A thick layer is then spread on cotton and left in position from ten to twenty-four hours. If the application has been successful all the macroscopical cancer mass should appear to be necrosed completely and the tissue beyond inflamed. Warm poultices are applied until the slough separates, usually in three days. Few cases require a second application. The ulcer may be dressed with aristol ointment. All exuberant granulations are to be kept in check by the usual methods. It is important to so stimulate the ulcer as not to permit scabs to form. He has used the caustic potash a few times before using Bougard's formula. He has never used Marsden's paste. The patient must be treated energetically and pain not be a preventive. During the application of the caustic he usually gives a hypodermic of morphin every five or six hours, but some cases do not require it.

156.—This article has appeared elsewhere. See The Journal, xxxv, p. 616.

165.—See abstract in The Journal, xxxv, p. 1501.

FOREIGN.

British Medical Journal, December 8 and 15.

Parasitology of Malaria. Lord Lister.—The author reviews the history of the discovery of the origin of malaria from Laveran's first findings of the ameba and Golgi's latter recognition of the tertiary and quartan forms, and the slightly later discovery of the estivo-autumnal parasite. He then gives an account of the deductions of Manson from the findings, and Ross's observations in India, which demonstrated the part that the mosquito plays in the infection. Although this was done, there still remained a link wanting in the chain of biologic sequence. The relation of unpigmented flagella to the pigmented corpuscle was unexplained until MacCallum's observations in this country, when he demonstrated the process of fertilization and that the flagella were nothing more nor less than spermatozoa and the granular cells were ova. The further observations of Koch and Grassi of the life cycle of the parasite, and the observations of Bastianelli and Bignami of the development of crescents, are also noted, as well as the recognition of the anopheles as carrier of the malarial parasite that infects man. Christophers and Stephens have also investigated blackwater fever and the special liability of children to be infected among the natives of malarial regions, with the practical inference from the fact of the advisability of Europeans when settling in a malarial tropical region separating their dwellings from those of natives, the interval of one-quarter of a mile usually being sufficient to afford a suitable degree of protection.

Causes and Cure of Insomnia. JAMES SAWYER.—The hypnotic drugs are reviewed in this second lecture, and Sawyer insists on the importance of giving such only in exceptional cases and of avoiding them if possible. The risks of the administration of a powerful hypnotic are very serious and many human lives are yearly lost from this cause. He would use them only as temporary remedies when it is necessary to secure sleep at once. The patient should never be allowed to swallow chloral or any other dangerous but valuable hypnotic according to his own free will, nor should he proportionate the dose himself. He can only safely take them under medical supervision. Another important point is that an overworked individual must never be permitted to go on with his overwork and habitually secure sleep by chloral or other drugs. The sleeplessness must be attacked at its cause. Sawyer, however, advises suspicion as to accepting work as the cause of insomnia. It is mostly worry, not overwork, or if work, work under wrong conditions. The general hygienic considerations must not be overlooked. A holiday with complete change of scene and with distinct activities will often do much to cure, and if the patient is well nourished the bromids may be cautiously employed. In the anemic cases a generous diet and alcohol as a hypnotic are sometimes useful, but there is a danger in the prescription of this agent and we must not be negligent of our responsibility. The author notices the various plans of producing sleep, such as counting, thinking of monotonous subjects, taking deep inspirations. He thinks these are occasionally useful, but by no means invariably effective. Care should be taken that the bed-covering is sufficient, but not excessive. In all cases, a window should be open the year round. The head of the bed should be away from the wall. A little food taken just at the time of retiring is often effective. Sometimes a person who has been long awake will fall asleep at once after sousing his head, neck and hands in cold water, or shaking up and cooling his pillows and bedclothes and then going back to bed. In the toxic forms of insomnia we must look after a reduction in the consumption of tobacco, alcohol, tea, etc., as the case may be. The treatment of gouty insomnia and that from chronic kidney disease is too extensive a subject, involving as it does the whole question of therapeutics of the maladies on which the symptom depends, to be discussed here. In the very obstinate senile insomnia the bromids with full doses of hops or henbane are the best drugs, and less harmful methods like some of the non-medicinal measures referred to may bring about sleep.

December 15.

Polyorrhomenitis, or Combined Serous Inflammations. FREDERICK TAYLOR.—In this article Taylor describes conditions which have been specially noticed by the Italians and have received the name of polyorrhomenitis, which include multiple serous inflammations. The name can be compared with that of polyarthritis, by which we mean multiple inflammation of the joints, and in these cases also we have to consider what are its bacteria, or poisons that cause the condition. Polyorrhomenitis may be either acute or chronic, and the causes correspondingly different. In the acute case one cause may be pneumococcic, while the pericardium and pleura are inflamed together; another is the staphylococcic invasion, which we see in pyemia and septicemia. The tubercle bacillus is also a cause in a small number of acute cases, though it plays the greatest part in the chronic and subacute inflammation of the serous membranes, where it is the most frequent cause of all. Polyorrhomenitis is more frequent in males than females. The majority of the cases occur between the ages of 16 and 30. In any case it usually begins in one serous membrane and subsequently invades the others, according to the following three types, of which the first is the most frequent and the last mentioned the least: 1. The peritoneum is first attacked, then the pleura, beginning generally with the right pleura. 2. The pleura, then the peritoneum. 3. The pleura on one side is first invaded, and then the opposite. 4. Pericarditis generally follows a pleurisy, and especially a left-sided pleurisy. 5. The inflammation may first involve one pleura, then the peritoneum, then the other pleura. The interval between the invasion of the different sacs may be weeks or months. The duration is also variable, and the result may be recovery with adhesions, or fatal. While most such cases are tuberculous, the author does not exclude the possibility of an exception and mentions a case in which there was no evidence in the post-mortem to show that tubercle had anything to do with the causation. The prognosis depends largely on the cause. The prognosis of pneumococcal polyorrhomenitis is undoubtedly much worse than the prognosis of pneumococcal pneumonia, or a pneumococcal empyema or pleurisy. An implication of the pericardium is a bad addition to the case. Streptococcal and staphylococcal cases may be fatal, but in the subacute or chronic multiple inflammation due to tubercle the prognosis is much more favorable. Tubercular peritonitis is probably fatal in more than one-half the cases; pleurisy in much less, but the associated lesion is not likely to be less fatal than the more fatal of the two operating alone. The course of tuberculous pericarditis probably renders death almost certain. In case of recovery from all the immediate inflammatory conditions there remains the risk from permanent adhesions, the risk of the development of tubercle in other organs, especially the lungs and meninges. The treatment of the condition must be conducted on the lines of treatment of the separate tuberculous lesions concerned, hygienic food, pure air, climate, relief from cares, etc. Internally as drugs, iron, creosote and cod-liver oil have been administered. As to local measures he has aspirated the left chest and applied mercurial ointment externally. Mercurial inunctions have often seemed to be valuable. Laparotomy may become desirable. Arsenic and iodin are also mentioned.

The Lancet, December 8 and 15.

Prognosis and Treatment in Pulmonary Tuberculosis. ROBERT MAGUIRE.—In this second lecture Maguire continues the subject of the prognosis of tuberculosis. Pyrexia, he thinks, is not so significant; it may be absent, and he does not consider that tubercular poisoning itself often produces pyrexia, but rather that it is due to staphylococcal and pneumococcal poisoning. An increased morning temperature and the nearer the approach to evening temperature the worse the outlook for the patient. General weakening at the commencement of the attack greatly increases the gravity of the case. This is especially so if there is a cardiac or vasomotor weakness. Hemoptysis causes altogether too much alarm, especially in the early stages; it occurs from so many other causes that he says: "I think one may say that hemoptysis alone is most frequently not caused by lung disease." Repeated small hemoptyses are often a relief to an over-congested pulmonary area and a single large hemoptysis without fever is apparently of little importance, but if fever is present it should excite all attention. In the second stage, that of progress, a point that we should look out for is the presence of large bubbling râles indicating formation of cavities which may or may not be detected during life, indicating progress of the germ and extension of its action. Pyrexia alone is not a specially important symptom in these cases. Extension of the tubercular lesions of the lungs may take place in five ways, each of which is discussed: 1, by simple contiguity; 2, by lymphatic absorption; 3, by bronchial insufflation, a matter of greatest importance; 4, by venous conduction; 5, by arterial conduction. The lymphatic absorption undoubtedly plays a great part in the extension of contiguity and it may be carried to remote parts of the body in this way. Bronchial insufflation is much more important, and the extension from the apex to the lower lobes is largely in this way. Venous and arterial conductions are, of course, important and more serious than some of the other methods. Tuberculosis of the larynx is never, he holds, an early condition; it is always produced by infection of the larynx through the excretion of the lungs. The same is true of infection of the bowels through swallowing of sputum: both, of course, are of the gravest prognosis. As regards symptoms, there are only two which greatly help in the prognosis in the second stage. They are pyrexia and hemoptysis. The former is always present; the higher the fever and more nearly the morning temperature approaches that of the evening, the worse the prognosis; but still worse is the so-called hectic fever, where the subnormal morning temperature is followed by an evening rise of perhaps even 8 degrees. Maguire's experience shows that no drug has any effect on this symptom. Hemoptysis is much more serious in the second stage than in the first, inasmuch as it is more usually caused by ulceration of the blood-vessels. Its dangers are: 1, loss of blood; 2, shock; 3, fright. He has seen cases where this last caused the death. In the third stage we have signs of activity and consolidation, or loss of lung tissue, dyspnea and hemoptysis, which last is a very serious matter. If copious it is most frequently caused by rupture of an aneurysm of the pulmonary artery in a cavity, and he warns against reckless percussion in this stage on account of the possible presence of these aneurysms.

December 15.

Prognosis and Treatment of Pulmonary Tuberculosis. Robert Maguire.—The third lecture deals with treatment. First he notices the encouraging resistance of the tissues by feeding, and the open-air treatment, which he thinks is carried to excess at the present time and should be tempered by good judgment on the part of the physician; then he passes to his experiments on producing asepsis of the lungs or destruction of the tubercular germs by injections of glycogen, yeast, cyanid of mercury, taka-diastate and nuclein with some little apparent encouragement with some of these, but the difficulties were very pronounced. He then gives a report of his own experiments with intravenous injection of a weak solution of formaldehyde, which is noticed editorially in this issue of The Journal. An unpleasant experiment on himself showed that it is dangerous to use a solution of more than 1 in 2000, and the maximum injection should not exceed more than 50 c.c. for an adult. The result of his treatment as elsewhere noticed has been encouraging, but he suggests that if unduly continued the formaldehyde will irritate the lung tissue and increase the symptoms. It is only practice and experience than can show one when to stop the treatment, but as a general rule he thinks it advisable to give up the injections for a few days when the temperature has fallen, when the sputum has become mucous and frothy, and when the cough is unduly troublesome. With regard to the latter he does not see the objection to the judicious use of opium to relieve both the excessive secretion and cough.

Bulletin de l'Academie de Med. (Paris), December.

Treatment of Fracture of Humerus. Lucas-Championniere.—As further evidence of the superiority of his method of early massage, without immobilization, Lucas-Championniere exhibited a man of 63 who had been treated for a fracture of the humerus below the deltoid impression, which had occurred a month previously. In spite of a certain degree of deformity there is no pain and the patient can already commence to use his arm. The treatment should be begun from the very first; it is impossible to attain the same results if the massage is not commenced until a few days after the traumatism. The pain and the contractions of the early stage should be prevented.

Neuropathic Hemorrhages of the Digestive Passages. Lancereaux.—The mouth, stomach or intestines may be the seat of neuropathic hemorrhage. It may appear consecutive to an emotion and is rarely serious unless by its repetition. There are almost always premonitory symptoms, a sensation of pain and oppression in the epigastrium, and of pain in the lumbo-sacral region or at the anus, genital regions or in the cecum, with general oppression, anorexia, flatulency and pains in the legs. These symptoms are followed by more or less pronounced colic and fluid, blackish stools, with a depression which may terminate in melancholia or syncope. The pulse and respiration become more rapid. These symptoms sometimes increase to such an extent as to become actually threatening, but usually the hemorrhage moderates and the patient recovers his strength. Recurrences are frequent and are sometimes periodical for several years. Opiates are useful by immobilizing the alimentary canal, combined if necessary with ice on the abdomen, injections of ergotin, and if the hemorrhage is from the stomach by the injection of twenty drops of ferric chlorid in solution. Quinin is extremely effective in arresting neuropathic hemorrhage, in doses of from 1 to 1.5 gm. a day. A number of typical cases of neuropathic hemorrhage are described, emphasizing the absence of anatomic lesions in these cases and the neuropathic character, especially in persons with a tendency to gout or rheumatism.

Bulletin Medical (Paris), December 1.

Vasoconstricting Properties of Quinin. Huchard.—The lowered arterial pressure that characterizes la grippe explains the beneficial results of the administration of quinin, owing to its power of contracting the vessels. This property renders it useful in various congestive and hemorrhagic conditions, combined with ergot and digitalis in case of hemoptysis or with opium and antipyrin in metrorrhagia with lumbo-abdominal pain which does not yield to ergot. Paulesco has reported two cases of exophthalmic goiter very favorably influenced by 1 gm. of quinin a day, and Soulier has had a similar experience with two cases treated with .75 gm. a day for a month. Huchard has been treating six cases of this disease with quinin hydrobromate for several months, 1.5 gm. a day during the first week, 1 gm. during the second, and .5 gm. during the third, and then recommencing with 1.50 gm. The results attained in four of the six cases have been extremely encouraging. Quinin is also very useful in aortic insufficiency with violent pulse-beat in the arteries of the neck and with nervous symptoms. He has also derived great benefit from it in thirty cases of what he calls "orthostatic" tachycardia, the disturbances in the circulation appearing only when the subject stands, diminish as he sits, and vanish completely when he reclines. The vascular system is relaxed and the heart contracts the more rapidly the more easily it is emptied. Ergot is ineffective in these cases.

Bull. de la Soc. Med. des Hop. de Paris, November 29.

Puerperal Phlebitis. Stapfer.—A slight, persisting subfebrile condition after childbirth is a warning of approaching phlebitis. In a case described, it continued for six to seven days when the temperature rose apparently to normal for ten days. Fever then returned and phlebitis of one of the lower limbs became evident, involving later the other limbs. After fifteen days of fever and phlebitic symptoms the fever rose to 41 C. and accompanied by intense headache and nervous symptoms. A course of frequent and prolonged tepid baths gradually restored conditions to normal, the patient becoming convalescent on the fifteenth day. These prephlebitic and postphlebitic symptoms are evidently due, like the phlebitis itself, to migration of microbes or toxins.

Revue Hebd. de Laryngologie (Bordeaux). November 10 and 24.

Primary Tuberculosis of the Larynx. S. Bernheim.—The larynx is more frequently the seat of primary localization of tuberculous infection than is generally appreciated. Bernheim has observed twenty-nine cases of this condition, and remarks that it can be differentiated by the small miliary vesicles which break and unite to form shallow, irregular flat ulcerations which invade almost the entire organ. The slow progress and the general phenomena distinguish it from primarily inflammatory laryngitis. He has sometimes injected tuberculin to aid in the diagnosis. It produces a harmless local pathognomonic reaction. The proper treatment aims to make the organism strong enough to live with the bacilli without suffering from their inroads. Fresh air, rest and food produce unexpected results and should be the base of all treatment of primary laryngeal tuberculosis. In the first stage phenic and lactic acid are the best local remedies, and in the other stages sprays or inhalation of phenic acid, repeated at least four times during the day. Senesse prescribes the following solution for the purpose: Phenic acid, 30 to 60 cgm.; cherry-laurel water, 20 gm.; potassium bromid or borax, 2 to 3 gm.; neutral glycerin 30 gm.; aq. dest. 300 gm.

November 24.

Operative Treatment of Scleroma. E. de Navratil.—Scleroma is more frequent in the eastern portion of central

Europe than in the west, especially in Hungary, Roumania, etc. Navratil does not allow himself to be deterred from operating by the advanced condition of the lesion, and reports several cases completely cured without recurrence by excising all the invaded regions and far into sound tissue, with subsequent autoplasty. He also describes a case which—unoperated—progressed to fatal involvement of the upper air-passages.

Ether in Laryngeal Tuberculosis. L. VACHER.—Intratracheal injections have been found by the writer very effective in treating tuberculosis of the larynx, especially in the ulcerative stage, in which there is usually much pain, a rebellious cough and laryngeal spasm. To control these symptoms and treat the lesion, he has found the following formula most satisfactory, after innumerable trials of various substances for these intratracheal injections. Ether with iodoform to saturation, 100 c.c.; guaiacol, 5; eucalyptol, 2; and menthol, 1, injecting 2 c.c. at a time. The patients all prefer the solutions made with ether as much more agreeable than when any other vehicle is employed. There is no spasm of the glottis, probably because the gas generated in the trachea forces it open. The improvement is unmistakable, both local and general, after a course of these intratracheal injections.

Semaine Medicale (Paris), December 5.

Plastic Linitis. BRISSAUD.—In the fibrous or fibroid tissue which forms the compact mass of the hypertrophied pylorus in this affection, there are always strips of epithelioid cells whose nature is still disputed. Some insist that they are metatypical elements, others that they are cancerous or that they are merely lymphatic endothelium and that the process is therefore an inflammatory tumefaction. The affection is first manifested by dyspepsia, with characteristics resembling those attributed to chronic gastritis. The morning mucus is exceptional, however, and when vomiting occurs, the food is seen to be largely digested. The vomiting is not always of food, as long as the syndrome of stenosis of the pylorus is not complete. The general health becomes rapidly modified from the very first, in spite of the good appetite and persistence of gastric digestion. The extreme pallor without hematemesis or melena suggests the anemic form of cancer. The legs are edematous, but the debility is not proportional to the cachectic appearance. A tumor soon appears at the pylorus; this is not knobby nor definitely limited, but it feels like a simple thickening of the stomach wall. The stomach is not dilated and sometimes is even retracted, especially in total linitis accompanied by retroperitonitis. The tumor always retains its primary site. A case is described in detail, treated by pylorectomy which restored the patient as if by magic. In nineteen days he had gained 1.2 kg. In another week, 2.1 kg. additional and by the end of four or five months he had gained a total of 10.62 kg.

Berliner Klin. Wochenschrift, November 26.

Treatment of Septic Infection Proceeding from the Uterus. ABEL.—Bacteriologic examination is of great importance and should be the guide in treatment. Irrigation of the uterus is of very little value, as the fluids do not penetrate into the tissue. Atmokausis is preferable—cauterization with steam. Abel relates instances in which the temperature fell to normal after exposure of the inner surface of the uterus to the action of steam at 110 C. for thirty seconds. The eschar formed was expelled later almost entire. He advocates atmokausis always as a last resort before proceeding to extirpation, reserving the latter for cases of infection in which there are extensive lacerations of the uterus. Extirpation transforms the dangerous lesion into a smooth wound with a prospect of healing. Infusion of salt solution and inhalation of oxygen are valuable adjuvants.

Centralblatt f. Chirurgie (Leipsic), December 8.

Improved Drill. P. MEISEL.—The grooves in the ordinary drill soon fill up with bone dust. Meisel overcomes this difficulty by making his drill as if it were two cutting knives rotating above a dura protector. By holding the drill obliquely a flat bone can be cut through at any angle or in an arc. Kraske has been using this drill in resecting the jaw and trephining for two years. A trephine flap cut with sloping edges fits back in place so perfectly that the patient can lie on it without trouble even from the first.

Cbl. f. Gyn. (Leipsic), October 27 and November 24.

Complete Rupture of the Uterus. K. J. F. BAUR.—In a case reported by Baur the spontaneous rupture was complete; fever and hemorrhage were slight, but there was considerable collapse. The dead fetus was extracted with forceps and the placenta found among the intestinal loops by following the cord with the hand. The ruptured uterus and the vagina were merely tamponed and the patient recovered without further treatment. When dismissed a month later, the uterus was in normal involution. It was retroflexed but readily straightened. No adhesions could be felt. A cicatrix extended along the posterior right vaginal wall. There was a gap in the cervix the width of the finger and it continued up in the broad ligament for 7 cm. Abstention from surgical intervention, even from local irrigation, permitted all the physical forces to be concentrated on the repair of the lesion and to this Baur attributes the favorable results of conservative treatment in such cases.

November 24.

Chorio-epithelial Vaginal Tumors. H. SCHMITT.—In the last three years cases have been reported of multiple, true chorio-epitheliomata in the vagina, lungs, liver and intestines with no primary tumor in the uterus. Schlagenhaufer has recently observed a case in which a chorio-epithelioma of the vagina was removed nine months after an abortion, with complete recovery. Schmitt reports a similar case operated on at Schauta's clinic. Two malignant chorio-epitheliomata had developed in the vagina, first noticed three months after the spontaneous expulsion of a hydatid mole with only a few days of fever but considerable hemorrhage, almost continuous for six weeks and recurring twice afterward for a few hours. One tumor was the size of an egg and the other of a nut when removed two months later. The general health was good and the uterus appeared normal. As curettement disclosed only ordinary interstitial endometritis, the uterus was left undisturbed. The patient has been examined every few weeks during the past eight months and seems normal in every respect. The malignant neoplasms in the vagina probably developed secondarily from normal villi deposited at this point during delivery. It is possible that this villous tissue may be carried to other organs by the blood, but perishes there from lack of a suitable soil.

Cbl. f. Inn. Med. (Leipsic), November 17, 24, and December 1.

Bacteriology of the Blood in Pneumonia. A. PROCHASKA.—Pure cultures of the pneumococcus were derived from the blood of each of ten cases of pneumonia tested at Eichhorst's clinic. Four terminated fatally; the remainder recovered, with empyema in one case and unusually slow absorption in some of the others. Nephritis and gangrene of the lungs occurred in three of the fatal cases.

November 24.

Action of Distillate of Coffee and Tea on Respiration and Heart. C. BINZ.—From eighteen tests on man and three on dogs, Binz concludes that the distillate of roasted coffee—free from caffein—has a marked effect, temporarily increasing the number of respirations. Muscular agitation and slight psychic excitement were also noted. The distillate of tea produced similar, but less pronounced, effects.

December 1.

Treatment of Senile Pruritus. A. JAENICKE.—Systematic brushing with a soft brush will remove the dead epithelium cells from the surface of the skin, which Jaenicke thinks is frequently the cause of senile pruritus. The skin can be moistened with alcohol to enhance the effect during the first two days, or lard or lanolin can be used for the purpose. Vaselin is less effective. Warm baths soften the epidermis and annul the effects of the brushing, which should be done for ten to twenty minutes at a time, three times a day at first, gradually diminishing to once in two days. This treatment has the second stage. They are pyrexia and hemoptysis. The former is always present; the higher the fever and more nearly the morning temperature approaches that of the evening, the worse the prognosis; but still worse is the so-called hectic fever, where the subnormal morning temperature is followed by an evening rise of perhaps even 8 degrees. Maguire's experience shows that no drug has any effect on this symptom. Hemoptysis is much more serious in the second stage than in the first, inasmuch as it is more usually caused by ulceration of the blood-vessels. Its dangers are: 1, loss of blood; 2, shock; 3, fright. He has seen cases where this last caused the death. In the third stage we have signs of activity and consolidation, or loss of lung tissue, dyspnea and hemoptysis, which last is a very serious matter. If copious it is most frequently caused by rupture of an aneurysm of the pulmonary artery in a cavity, and he warns against reckless percussion in this stage on account of the possible presence of these aneurysms.

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Ether in Laryngeal Tuberculosis. L. Vacher.—Intratracheal injections have been found by the writer very effective in treating tuberculosis of the larynx, especially in the ulcerative stage, in which there is usually much pain, a rebellious cough and laryngeal spasm. To control these symptoms and treat the lesion, he has found the following formula most satisfactory, after innumerable trials of various substances for these intratracheal injections. Ether with iodoform to saturation, 100 c.c.; guaiacol, 5; eucalyptol, 2; and menthol, 1, injecting 2 c.c. at a time. The patients all prefer the solutions made with ether as much more agreeable than when any other vehicle is employed. There is no spasm of the glottis, probably because the gas generated in the trachea forces it open. The improvement is unmistakable, both local and general, after a course of these intratracheal injections.

Semaine Medicale (Paris), December 5.

Plastic Linitis. Brissaud.—In the fibrous or fibroid tissue which forms the compact mass of the hypertrophied pylorus in this affection, there are always strips of epithelioid cells whose nature is still disputed. Some insist that they are metatypical elements, others that they are cancerous or that they are merely lymphatic endothelium and that the process is therefore an inflammatory tumefaction. The affection is first manifested by dyspepsia, with characteristics resembling those attributed to chronic gastritis. The morning mucus is exceptional, however, and when vomiting occurs, the food is seen to be largely digested. The vomiting is not always of food, as long as the syndrome of stenosis of the pylorus is not complete. The general health becomes rapidly modified from the very first, in spite of the good appetite and persistence of gastric digestion. The extreme pallor without hematemesis or melena suggests the anemic form of cancer. The legs are edematous, but the debility is not proportional to the cachectic appearance. A tumor soon appears at the pylorus; this is not knobby nor definitely limited, but it feels like a simple thickening of the stomach wall. The stomach is not dilated and sometimes is even retracted, especially in total linitis accompanied by retroperitonitis. The tumor always retains its primary site. A case is described in detail, treated by pylorectomy which restored the patient as if by magic. In nineteen days he had gained 1.2 kg. In another week, 2.1 kg. additional and by the end of four or five months he had gained a total of 10.62 kg.

Berliner Klin. Wochenschrift, November 26.

Treatment of Septic Infection Proceeding from the Uterus. Abel.—Bacteriologic examination is of great importance and should be the guide in treatment. Irrigation of the uterus is of very little value, as the fluids do not penetrate into the tissue. Atmokausis is preferable—cauterization with steam. Abel relates instances in which the temperature fell to normal after exposure of the inner surface of the uterus to the action of steam at 110 C. for thirty seconds. The eschar formed was expelled later almost entire. He advocates atmokausis always as a last resort before proceeding to extirpation, reserving the latter for cases of infection in which there are extensive lacerations of the uterus. Extirpation transforms the dangerous lesion into a smooth wound with a prospect of healing. Infusion of salt solution and inhalation of oxygen are valuable adjuvants.

Centralblatt f. Chirurgie (Leipsic), December 8.

Improved Drill. P. Meisel.—The grooves in the ordinary drill soon fill up with bone dust. Meisel overcomes this difficulty by making his drill as if it were two cutting knives rotating above a dura protector. By holding the drill obliquely a flat bone can be cut through at any angle or in an arc. Kraske has been using this drill in resecting the jaw and trephining for two years. A trephine flap cut with sloping edges fits back in place so perfectly that the patient can lie on it without trouble even from the first.

Cbl. f. Gyn. (Leipsic), October 27 and November 24.

Complete Rupture of the Uterus. K. J. F. Baur.—In a case reported by Baur the spontaneous rupture was complete; fever and hemorrhage were slight, but there was considerable collapse. The dead fetus was extracted with forceps and the placenta found among the intestinal loops by following the cord with the hand. The ruptured uterus and the vagina were merely tamponed and the patient recovered without further treatment. When dismissed a month later, the uterus was in normal involution. It was retroflexed but readily straightened. No adhesions could be felt. A cicatrix extended along the posterior right vaginal wall. There was a gap in the cervix the width of the finger and it continued up in the broad ligament for 7 cm. Abstention from surgical intervention, even from local irrigation, permitted all the physical forces to be concentrated on the repair of the lesion and to this Baur attributes the favorable results of conservative treatment in such cases.

November 24.

Chorio-epithelial Vaginal Tumors. H. Schmitt.—In the last three years cases have been reported of multiple, true chorio-epitheliomata in the vagina, lungs, liver and intestines with no primary tumor in the uterus. Schlagenhaufer has recently observed a case in which a chorio-epithelioma of the vagina was removed nine months after an abortion, with complete recovery. Schmitt reports a similar case operated on at Schauta's clinic. Two malignant chorio-epitheliomata had developed in the vagina, first noticed three months after the spontaneous expulsion of a hydatid mole with only a few days of fever but considerable hemorrhage, almost continuous for six weeks and recurring twice afterward for a few hours. One tumor was the size of an egg and the other of a nut when removed two months later. The general health was good and the uterus appeared normal. As curettement disclosed only ordinary interstitial endometritis, the uterus was left undisturbed. The patient has been examined every few weeks during the past eight months and seems normal in every respect. The malignant neoplasms in the vagina probably developed secondarily from normal villi deposited at this point during delivery. It is possible that this villous tissue may be carried to other organs by the blood, but perishes there from lack of a suitable soil.

Cbl. f. Inn. Med. (Leipsic), November 17, 24, and December 1.

Bacteriology of the Blood in Pneumonia. A. Prochaska.—Pure cultures of the pneumococcus were derived from the blood of each of ten cases of pneumonia tested at Eichhorst's clinic. Four terminated fatally; the remainder recovered, with empyema in one case and unusually slow absorption in some of the others. Nephritis and gangrene of the lungs occurred in three of the fatal cases.

November 24.

Action of Distillate of Coffee and Tea on Respiration and Heart. C. Binz.—From eighteen tests on man and three on dogs, Binz concludes that the distillate of roasted coffee—free from caffein—has a marked effect, temporarily increasing the number of respirations. Muscular agitation and slight psychic excitement were also noted. The distillate of tea produced similar, but less pronounced, effects.

December 1.

Treatment of Senile Pruritus. A. Jaenicke.—Systematic brushing with a soft brush will remove the dead epithelium cells from the surface of the skin, which Jaenicke thinks is frequently the cause of senile pruritus. The skin can be moistened with alcohol to enhance the effect during the first two days, or lard or lanolin can be used for the purpose. Vaselin is less effective. Warm baths soften the epidermis and annul the effects of the brushing, which should be done for ten to twenty minutes at a time, three times a day at first, gradually diminishing to once in two days. This treatment has always relieved the pruritus and frequently abolished it for several months at a time.

Cbl. f. Nerv. u. Psych. (Breslau), October.

Hypothermia in Epilepsy. C. Ceni.—In twelve out of twenty epileptics Ceni has examined, the temperature fell to 36, 35, and even 34 C. at times, the hypothermia persisting for thirty to sixty minutes. In some cases it recurred several times during the twenty-four hours, but usually appeared after periodical intervals of a few days or weeks, but at irregular hours. In some patients, however, it reappeared with an intermittent character at about the same hour. There did not seem to be any connection between the hypothermia and the number or violence of the seizures, but in a few cases it preceded a seizure by an hour or two. He considers this hypothermia another point in favor of the autotoxic nature of epilepsy.

Deutsche Med. Wochenschrift (Leipsic), December 6.

Typhoid Bacilli in the Blood. M. Auerbach.—By the technique described, Eberth's bacillus was discovered in the blood in seven out of ten cases of typhoid fever of varying severity. Differentiation was possible in some instances in thirty-six hours. About 300 c.c. of meat bouillon in an Erlenmeyer jar were sown with 10, 20 or 30 drops of blood from the median vein and shaken. Hanging-drop cultures made in eighteen to twenty-four hours afterward were sometimes successful, but in other cases the jars required replacing in the oven for twenty-four more hours. By this means characteristic cultures could be obtained on agar, milk, grape sugar and bouillon and the eight-hour bouillon culture proved a fine test for the agglutinating properties. In one case an uncertain diagnosis was confirmed by the results of this test of the blood. It is as simple a procedure as the agglutinating test and is decisive if positive.

Neurologisches Centralblatt (Leipsic), November 1 and 15.

Electric Stimulation After Decapitation. A. Hoche.—Hoche's electric tests of decapitated criminals have already been mentioned in The Journal. He has since had opportunity for research on two more subjects, commencing two minutes after the knife had fallen, and it confirms his previous views. He finds that there is no independent excitability to the faradic current on the part of the motor fibers in the tracts. The effects which follow electric stimulus are due either to stimulation of the roots or to reflex mediation. By graduating the amount of the stimulus, these latter forms can be differentiated. Weak stimulation of the anterior and lateral columns of the cord induces contraction on the same side, and stronger stimulus, symmetrical contraction on the other side. Weak stimulation of the posterior columns produces a symmetrical response in the plane of the point of excitation. The question of the localization of the ganglion cells for the nerves of the upper extremity can probably be determined by isolated stimulation of the anterior roots, which he proposes to undertake on the next occasion.

November 15.

Brachial Neurosis from Diseased Tooth. F. Hesse.—A tooth which had been filled six years before was not particularly painful and appeared sound, but both jaws were tender and violent pains radiated through the shoulder, breast and arm, with paralytic symptoms. Extraction of the tooth, which proved to have a necrosed pulp, completely cured the neurosis in the cervical and brachial plexuses which had resisted all treatment for a year.

Wiener Klinische Rundschau, November 25.

Cerebral Bladder Disturbances. E. von Czyhlarz and O. Marburg.—In this communication, based on observations at Nothnagel's medical and Obersteiner's neurologic clinics, the writers announce that bladder disturbances may exist in the course of cerebral affections with an otherwise sound nervous, muscular and glandular bladder apparatus, and without clouding of the consciousness. Unilateral lesions of the motor zone of the cortex caused disturbance of the bladder function, as was shown in an inability to voluntarily void urine. No bilateral lesions came under observation. The surprising fact was also noted that the subcortical cerebral centers seem to have a certain influence on the bladder. In several cases of lesions of the corpus striatum, there was incontinence of urine, but in a case of bilateral, total destruction of the thalamus, there were no bladder disturbances, although the knee reflexes were abolished.

Connection Between Lithiasis and Hard Water. J. Preindlsberger.—The writer has been making an extensive study of lithiasis in Bosnia and gives a map showing that all of the 176 cases of lithiasis he has been able to collect, occurred in a central district stretching through the country, corresponding to a certain geological foundation, consisting essentially of lime.

Wiener Klinische Wochenschrift, November 29.

Plea for More Extensive Operating in Carcinoma Uteri. E. Wertheim.—During the last two years Wertheim has been having many sections made of the glands and parametrium in every case of cancer of the uterus that came to operation, 33 in all. In 11, some of the glands in the region were found invaded by the carcinoma, including five in which the neoplasm had been supposed to be in its earliest stage. That is, in 26 cases of operable carcinoma of the cervix the glands were found involved in 20 per cent. In one case, a commencing cancroid of the portio, a cancerous gland about the size of a cherry, was found close to the right external iliac vein. No traces of cancer could be discovered in any of the other glands nor in the parametrium. In another case, a circumscribed nodule on the posterior lip of the portio vaginalis was accompanied by a cancerous gland, the size of a hen's egg, on the left external iliac vein. In the third case the cervix was entirely cancerous and a cancerous gland was found close to the right uterine vein. In the fourth, the cervix was cancerous, and the parametrium and neighboring glands were normal, but at the point where the left ureter crosses the common iliac, a cancerous gland the size of a cherry was found. In the fifth, a narrow strip of cancerous tissue in the right parametrium led to a very large cancerous gland adherent to the external iliac vein. Cancerous fibers and nests were found several times in the parametrium, when to the eye and touch it seemed perfectly normal. Wertheim considers these findings important testimony to the necessity of extirpating the glands in the vicinity and the parametrium in all cases. His technique includes exposing and liberating the ureters and the iliac blood-vessels. The glands are carefully sought for along the vessels and excised, up to the fork of the abdominal aorta, and the parametrium and paravaginal cellular tissue are extirpated with the uterus and the upper portion of the vagina. Omitting light inoperable cases, he has had three die out of 25 patients operated on, one from invagination of the small intestine, the others from peritonitis. The remainder recovered and have shown no signs of recurrence to date. The operation requires seventy-five to ninety minutes. The ureters are easily isolated unless fixed by inflammatory processes. The vessels are readily exposed. Hemostasis has to be applied to even the smallest ramification of the veins and trained assistance is necessary. Provisory ligature of the hypogastric artery was of no appreciable benefit. The extirpation of the glands is difficult only when they are adherent to the vessels. In future, he remarks, it may be possible to restrict the extirpation to those glands alone which are tumefied, as in none of his sections were traces of carcinoma to be found in the normally small glands. The general health and the state of the heart should be carefully weighed before attempting intervention. If these are favorable, unexpectedly gratifying results may be attained.

Differential Diagnosis Between Tubercular and Syphilitic Processes. P. Baumgarten.—In a syphilitic process the small fibroblasts only exceptionally attain the size and the number of nuclei of the tubercular epithelioid cells. They are also regularly distributed and covered with leucocyte infiltration and the capillaries are prominent. In a tubercular process, the cells are clumped and without leucocyte infiltration, and the presence of even a single giant cell tips the scale of probability. The vessels also soon disappear. Cicatrization occurs only after a caseous degeneration. In a syphilitic process the connective-tissue metamorphosis frequently appears before the gummatous necrosis, which proceeds much more slowly to complete destruction of the parts. The contour of the original structure may be perceived through the veil of gummatous mortification, while in tubercular processes the original structure soon vanishes completely. In the testicles the syphilitic process begins in the interstitial tissue and only secondarily invades the walls of the seminiferous tubules, while the reverse course is observed in a tubercular process. It usually occurs first in the epididymis and spreads through the rete testis to the seminiferous tubules. In only two cases on record were the latter the primary site of tubercular affection. Virchow has also observed a primary interstitial tubercular process in the testis, most common in young boys with general miliary tuberculosis. Another point in differentiation is that a syphilitic process induces degenerative changes in the epithelium of the tubules, while in a tubercular there is always pathologic proliferation.

The Ganglia of the Abdominal Wall in Peritonitis. M. Askanazy.—The ganglia are not as usual woven closely into the tissues, but are surrounded by a space which is seen to be the dilated sheath, filled with a lymphatic fluid. The ganglia are compressed and displaced by the pressure of this fluid and this is probably a factor in the intestinal paralysis which frequently accompanies peritonitis.

Change of Address.

E. Brown, 15th and Dodge Sts., to 1026 Park Ave., Omaha, Neb.
G. P. Bearman, Symerton, Ill., to Bowbells, N. D.
H. T. Crabtree, Chicago, to 3700 California St., San Francisco, Cal.
J. H. Carpenter, 412 Cleveland Ave., to 535 Willand St., Chicago.
G. S. Darby, 661 W. Adams St., to 79 Seeley Ave., Chicago.
R. C. Dryden, Winslow, Ariz., to Capitan, N. M.
J. W. Evinger, Paris, to Elbridge, via Paris, Ill.
E. M. Holmes, Bradyville, to Readyville, Tenn.
E. H. Hawkins, Denver, to Leadville, Colo.
H. F. Hewitt, Grand Island, Neb., to Hawarden, Iowa.
Geo. M. Kober, 1819 Q St., N. W., to 1600 T St., N. W., Washington, D. C.
Anna Lukens, La Pintoresca Hotel, to 427 Marengo Ave., Pasadena, Cal.
F. H. Lukin, Leesville, to Marysville Va.
P. E. McDonald, Fort Yates, N. D., to General Delivery, New York City.
E. J. Miller, Dickinson, N. D., to Ashton, Ill.
A. E. Miller, Boston, to Needham, Mass.
W. J. Nier, Palmyra, Wis. to 608 W. 58th St., Chicago.
G. B. Pearson, Newport News, Va., to Middletown, Del.
J. Sjoquist, Holdrege, Neb., to U. S. Consulate, Shanghai, China.
J. G. Smith, 579 E. 12th, to 519 E. 12th St., Kansas City, Mo.
Robt. Sattler, Biddeford Pool, Me., to The Groton, Cincinnati, O.
E. A. Timmons, Godwin, to Columbia, Tenn.
C. S. Venable, Carlton and Regent Sts., to Brown-Shipley & Co., Bankers, London, England.
Ben Webster, Cassopolis, to Alamo, Mich.
W. S. Whitwell, San Mateo, Cal., to Fishkill Landing-on-the-Hudson, N. Y.
A. L. Walker, Memphis, Tenn., to Plevna, Ala.
Wm. F. Wegge, 693 Cass St., to 82 Wisconsin St., Milwaukee, Wis.

Queries and Minor Notes.

MUSCLE-TRAINING OF INFANTS.

Cortland, N. Y., Dec. 17, 1900.

To the Editor:—Will you please give me the title of a good manual on the muscle-training of infants? What I need is for a child 3 years old that does not co-ordinate properly. F. W. H.

Ans.—We do not know of any special work on the muscle-training of infants or very young children, nor of any one dealing specially with that subject. We believe that the natural play of children is usually the best muscle-training exercise, though in special cases the treatment for imperfect co-ordination would have to be managed on different principles, recognition being taken, of course, of the underlying condition, which may be one that will effect the prognosis.

MEDICAL-PRACTICE LAW.

Wausaukee, Wis., Dec. 24, 1900.

To the Editor:—Would you kindly publish, or tell me where I may find, the requirements for registration for practice in the state of Michigan, and also name and address of the secretary of the State Board of Examiners? Respectfully, R. C. A.

Ans.—The requirements in Michigan are a diploma from a recognized medical college, or examination. The board of examination is rigid in its scrutiny of medical colleges. A list of colleges recognized by the board can probably be obtained from the secretary, Dr. B. D. Harison, Sault Ste. Marie, Mich.

A HOME FOR PHYSICIANS.

Bristol, Tenn., Dec. 11, 1900.

To the Editor:—I write for information as to a matter to which my attention has been called recently and that is to a proposition to build a physicians' home in some part of the United States in the near future. Please let me know if there is such a movement on foot and by whom the movement is projected. I have been asked to find something about the matter, and hence I make inquiry of you. G. M. P.

Ans.—We do not know of any such project being under consideration. Possibly some of our readers may be able to enlighten us.

CALL OF COURTESY.

Roanoke, Va., Dec. 21, 1900.

To the Editor:—I desire to ascertain whether it is customary for a medical practitioner who has just recently located in a city to call on his brother medical men first as an act of courtesy, or should he wait until the first call is made by them? I do not think our Code of Ethics makes any mention of this; at least the one I have (written by Prof. Austin Flint in 1893) is silent on the subject. "The Physician Himself," by Cattell, makes some mention of the subject, but it is not quite clear. Your immediate reply will serve toward settling a lively dispute on the subject.

Fraternally yours, B. C. K.

Ans.—While there is no written law governing the subject, there is an unwritten one that a medical practitioner locating in a city shall call on the other physicians and announce that he is locating among them, and in that way intimate that he desires their recognition.

INTRA-ABDOMINAL TORSION OF THE OMENTUM.

Niagara Falls, N. Y., Dec. 19, 1900.

To the Editor:—Referring to your editorial in The Journal of *Dec. 15, 1900*, page 1558, concerning intra-abdominal torsion of the omentum, I would ask if you could kindly give me some literature on this condition. I have now under my care a case in which I diagnosed some time ago chronic torsion of the omentum, and I hope to be able soon to confirm my diagnosis by an operation. As I intend to publish the case, owing to its interest to the profession, your kind help in collecting the literature would be greatly appreciated. C. G. Leo-Wolf, M. D.

Ans.—The following references are given by Dr. Wiener in his article in the *Annals for Surgery* for November, 1900:

Max Oberst: Zur Casuistik d. Bruchschnittes nebst Bemerkungen über Netzeinklemmungen. Centralbl. f. Chirurgie, 1882.

Maydl: Ueber Retrograde Incarceration d. Tuba u. d. Processus Vermiformis, etc. Wiener Klin. Rundschau, 1894.

Kukula: Ueber Retrograde Incarceration eines Gestielten Tumors des Dünndarms. Wiener Klin. Rundschau, 1895.

Carl Bayer: Retrograde Netzincarceration mit Stieltorsion über d. Bruchring. Centralbl. f. Chirurgie, February, 1900.

C. H. Peck: Specimen of Intra-abdominal Omental Torsion. Medical Record, March 3, 1900.

Hochenegg: Ein Fall Intra-abdominaler Netztorsion. Wiener Klin. Wochenschrift, March 29, 1900.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Dec. 13 to 19, 1900, inclusive:

Charles H. Andrews, acting asst.-surgeon, leave of absence from the Department of California extended.

John E. Bacon, acting asst.-surgeon, relieved from duty at Fort Du Chesne, Utah, to proceed to Fort Grant, Ariz., and report by telegraph to the surgeon-general for annulment of contract.

Lawrence C. Carr, major and surgeon, Vols., leave of absence granted.

Harold W. Cowper, acting asst.-surgeon, from Fort Ontario, N. Y., to San Francisco, Cal., for duty with troops en route to Manila, P. I., and subsequent assignment in the Division of the Philippines.

William D. Crosby, captain and asst.-surgeon, U. S. A., to report to the president of the examining board, Army Medical Museum, Washington, D. C., for examination for promotion.

Richard M. Fletcher, Jr., acting asst.-surgeon, leave of absence from the Department of Dakota extended.

Timothy F. Goulding, acting asst.-surgeon, on the expiry of his present leave of absence, to proceed from Boston, Mass., to San Francisco, Cal., for duty with troops going to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

George B. Lawrason, lieutenant and asst.-surgeon, Vols. (recently appointed with rank from Nov. 19, 1900), is assigned to the 11th U. S. Cav., Vols.

James H. McCall, acting asst.-surgeon, from Fort Schuyler, N. Y., to San Francisco, Cal., for duty with troops going to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

Adrian S. Polhemus, captain and asst.-surgeon, U. S. A., to report to the president of the examining board, Army Medical Museum building, Washington, D. C., for examination for promotion.

Earle H. Sargent, acting asst.-surgeon, from Fort Casey, Wash., to duty at Camp William H. Osborne, Idaho.

Jesse P. Truax, acting asst.-surgeon, from Camp William H. Osborne, Idaho, to post duty at Fort Casey, Wash.

Compton Wilson, acting asst.-surgeon, from London, Ont., Canada, to San Francisco, Cal., for duty with troops en route to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the Navy for week ending Dec. 22, 1900:

Asst.-Surgeon R. E. Ledbetter, detached from the *Constellation* and assigned to the *Monongahela*.

Asst.-Surgeon J. A. Murphy, detached from the *Solace* and assigned to the *Don Juan de Austria*.

Asst.-Surgeon Jacob Stepp, detached from the *Solace* and assigned to the Cavite naval station.

Asst.-Surgeon M. V. Stone, detached from the *Yosemite* and assigned to the *Isla de Luzon*.

Asst.-Surgeon J. C. Thompson, detached from the Navy Hospital, Cavite, P. I., and assigned to the *Solace*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Dec. 20, 1900:

Surgeon George Purviance, to report at Washington, D. C., for temporary duty.

Surgeon H. W. Sawtelle, granted leave of absence for thirty days from Jan. 20, 1901.

Surgeon J. H. White, bureau letter of Oct. 11, 1900, granting Surgeon White leave of absence for thirty days amended so that said leave shall be for twelve days only.

Surgeon P. M. Carrington, granted leave of absence for thirty days on account of sickness. Relieved from duty at Washington, D. C., and directed to proceed to Fort Stanton, N. M., and assume command of the service, relieving P. A. Surgeon J. O. Cobb.

P. A. Surgeon J. O. Cobb, relieved from command of service at Fort Stanton, N. M., and directed to report to medical officer in command for duty.

P. A. Surgeon M. J. Rosenau, upon completion of duty at Paris, France, to rejoin station as director of Hygienic Laboratory, Washington, D. C.

Asst.-Surgeon John McMullen, relieved from duty at Tortugas quarantine, and directed to proceed to Savannah, Ga., quarantine station for temporary duty.

Asst.-Surgeon W. A. Korn, granted leave of absence for seven days from Dec. 24.

Junior Hospital Steward E. T. Olsen, granted leave of absence for ten days from Dec. 22.

APPOINTMENT.

A. C. Fraser, of Wisconsin, appointed acting asst.-surgeon for duty at the port of Manitowoc, Wis.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Dec. 21, 1900:

SMALLPOX—UNITED STATES.

District of Columbia: Dec. 15, 5 cases.

Illinois: Chicago: Dec. 8-15, 2 cases.

Kansas: Wichita, Dec. 8-15, 11 cases.

Kentucky: Lexington, Dec. 8-15, 2 cases.

Michigan: Detroit, Dec. 8-15, 2 cases.

Minnesota: Minneapolis, Dec. 8-15, 7 cases.

Nebraska: Omaha, Dec. 1-8, 3 cases.

New Hampshire: Manchester, Dec. 8-15, 22 cases.

New Jersey: Jersey City, Dec. 8-16, 1 case.

New York: New York, Dec. 15, 15 cases.

Ohio: Ashtabula, Dec. 8-15, 2 cases; Cleveland, Dec. 8-15, 37 cases: Portsmouth, Dec. 8-15, 2 cases.

Pennsylvania: Erie, Dec. 15, 5 cases.

South Carolina: Greenville, Dec. 8-15, 2 cases.

Tennessee: Memphis, Dec. 8-15, 1 case.

Texas: Houston, Dec. 15, 18 cases.

Utah: Salt Lake City, Dec. 8-15, 40 cases, 1 death.

West Virginia: Wheeling, Dec. 15, 8 cases.

Wisconsin: Milwaukee, Dec. 8-15, 1 case.

SMALLPOX—FOREIGN.

Bohemia: Prague, Nov. 24-Dec. 1, 46 cases, 1 death.

Brazil: Pernambuco, Nov. 15, 16 deaths; Rio de Janeiro, Oct. 16-31, 43 deaths.

Egypt: Alexandria, Nov. 27, 3 cases, 1 death.

England: London, Nov. 24-Dec. 1, 14 cases, 1 death; Sunderland, Dec. 1, 1 case.

France: Paris, Dec. 1, 17 deaths.

Gibraltar: Nov. 25, 1 case.

Greece: Athens, Dec. 1, 2 cases.

India: Calcutta, Nov. 3-15, 8 deaths.

Mexico: Mexico, Dec. 2, 1 case; Tuxpan, Dec. 3-10, 3 deaths

Russia: Moscow, Nov. 17-24, 3 cases, 1 death; Odessa, Nov. 24, 62 cases, 15 deaths; St. Petersburg, Nov. 24, 5 cases, 2 deaths; Warsaw, Nov. 24, 25 deaths.

Scotland: Glasgow, Dec. 7, 45 cases, 1 death.

Spain: Corunna, Nov. 3, 2 deaths; Valencia, Dec. 2, 1 case.

YELLOW FEVER.

Brazil: Rio de Janeiro, Oct. 16-31, 2 deaths.

Mexico: Vera Cruz, Dec. 8, 2 deaths; Yucatan, Nov. 30, 1 death.

CHOLERA.

India: Bombay, Nov. 13-20, 7 deaths; Calcutta, Nov. 3-15, 35 deaths; Madras, Nov. 10-16, 2 cases, 1 death.

Straits Settlements: Singapore, Nov. 3, 6 deaths.

PLAGUE—FOREIGN AND INSULAR.

Brazil: Rio de Janeiro, Oct. 16-31, 9 deaths.

India: Bombay, Nov. 13-20, 125 deaths; Madras, Nov. 10-16, 1 death.

Philippine Islands: Manila, Nov. 3, 3 cases, 1 death.

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MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the American Medical Association. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive The Journal free. Subscribers to The Journal may become members of the Association without additional expense if they are members of medical societies recognized by the Association. Those desiring to have their names transferred from the subscription to the membership lists should send certificates as above, with a receipt for their subscription to The Journal, covering the current fiscal year.

FISCAL YEAR.

The fiscal year of the American Medical Association is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the Association at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to The Journal for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

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The Journal of the American Medical Association

Vol. XXXVI. CHICAGO, ILLINOIS, JANUARY 12, 1901. No. 2.

Original Articles.

THE DIAGNOSIS AND TREATMENT OF THE PREBACILLARY STAGE OF PULMONARY TUBERCULOSIS.*

J. M. ANDERS, M.D., LL.D.
PHILADELPHIA.

By the title of this article is meant that variable period in pulmonary tuberculosis which precedes the presence of tubercle bacilli in the sputum. It is not synonymous with the term "pretubercular stage," which has reference either to an inherited or acquired predisposition merely, or to a latent tuberculous process. The prebacillary stage, as here defined, is oftimes of long duration. Concerning the stage of enclosure Allbutt[1] observes that an examination of the sputum can not help us decisively in tuberculous endobronchitis. In my own experience the bacilli were sometimes not found in the sputum for months, or even a year, after the apparent onset. Turban[2] examined the sputum in the first stage in 408 cases and failed to find tubercle bacilli in 59.8 per cent.

It may be safely affirmed, then, that an antecedent well-characterized clinical stage is often observed. Eichhorst[3] forcibly remarks, "Certainly one finds off and on undoubted cases of pulmonary tuberculosis in which tubercle bacilli are missed, a daily examination of the sputum notwithstanding." It must be conceded that unless other methods of diagnosticating pulmonary tuberculosis than the demonstration of tubercle bacilli in the sputum be resorted to, not a small minority of cases would go unrecognized, some for months, or even a year, and some forever.

While emphasizing this class of cases, it is not my desire to attempt to shake professional trust in the sputum-test, which in the majority of cases, perhaps, enables clinicians to form a positive diagnosis at an early stage of the disease and in cases not otherwise solvable, but on the other hand, to urge that it be repeated at short intervals in clinically suspicious cases. Percy Kidd[4] has indicated certain clinical groups of cases in which the true nature of the complaint may be masked by a generalized bronchitis, or laryngitis and the like, in which a sputum examination yields the earliest positive information.

I am relieved of the necessity of dwelling at length on many of the more remote early manifestations of the disease by reason of the elaborate and accurate descriptive writings of Ruehle,[5] Sée,[6] and others. Brief attention, however, will be invited to the practical points bearing on diagnosis that have been emphasized by some of the older writers and the value of which personal observation and experience has tended to corroborate and strengthen.

Heredity.—The influence of heredity is still incontrovertible, although less potential than was held previous to Koch's startling and revolutionizing discovery. Whilst the progeny of tuberculous parents often suffer, it is, as a rule, owing to an extrauterine or post-fetal infection, direct transmission being the exception. G. Hauser,[7] after reviewing at length the work of previous writers on direct inheritance, reaches the conclusion that there are but 18 authentic instances on record. He declares that the theory of the bacillary inheritance of tuberculosis rests on insufficient evidence. But, though intrauterine infection is extremely rare, and though there is practically no hereditary tuberculosis, there is a hereditary predisposition which invites infection. Hence, a somewhat different rôle, although one of considerable importance, is assigned to heredity. We are not concerned at present writing with the many evident methods of infection that may be operative from the time of birth and cause so striking a similarity between post-natal and ante-natal tuberculosis. This fact, however, coupled with the long period of latency of tuberculosis in childhood, must be recollected in deciding from the appearance of an individual, first, whether he has the habitus phthisicus, and secondly, whether it is really inherited. For example, as the result of an unfavorable environment, particularly if combined with bad habits, this predisposition may be acquired. E. O. Otis[8] pertinently affirms that heredity *means poor* vitality from birth and that subjects who manifest the same conditions without the influence of heredity are predisposed to a like extent. I have, however, frequently been able to satisfy myself that individuals possessing a *robust* build are, if they belong to affected families, more prone to the disease than apparently similar constitutions in persons who have no tuberculous family history. Indeed, I fear that in consequence of the modification of professional opinion in recent times relative to the question of heredity there is danger that too little attention is now, and will be in future, given to the family history.

The point of greatest practical importance is that the immigration and lodgment of bacilli are distinctly favored in a predisposed organism as compared with one that is perfectly normal; hence, this hereditary influence, when clearly present, is not only of etiologic but also of diagnostic importance. Allbutt[1] says: "Every physician engaged in practice among the classes in which family history can be acquired is morally convinced of the bias of many families to tuberculosis, however healthy their circumstances may appear; a bias often revealed in each of their members on the attainment of a certain age."

The personal history, however, surpasses in point of import the family history. The age of the patient is

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* Presented in a Symposium on Tuberculosis, to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Compton Wilson, acting asst.-surgeon, from London, Ont., Canada, to San Francisco, Cal., for duty with troops en route to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the Navy for week ending Dec. 22, 1900:

Asst.-Surgeon R. E. Ledbetter, detached from the *Constellation* and assigned to the *Monongahela*.

Asst.-Surgeon J. A. Murphy, detached from the *Solace* and assigned to the *Don Juan de Austria*.

Asst.-Surgeon Jacob Stepp, detached from the *Solace* and assigned to the Cavite naval station.

Asst.-Surgeon M. V. Stone, detached from the *Yosemite* and assigned to the *Isla de Luzon*.

Asst.-Surgeon J. C. Thompson, detached from the Navy Hospital, Cavite, P. I., and assigned to the *Solace*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Dec. 20, 1900:

Surgeon George Purviance, to report at Washington, D. C., for temporary duty.

Surgeon H. W. Sawtelle, granted leave of absence for thirty days from Jan. 20, 1901.

Surgeon J. H. White, bureau letter of Oct. 11, 1900, granting Surgeon White leave of absence for thirty days amended so that said leave shall be for twelve days only.

Surgeon P. M. Carrington, granted leave of absence for thirty days on account of sickness. Relieved from duty at Washington, D. C., and directed to proceed to Fort Stanton, N. M., and assume command of the service, relieving P. A. Surgeon J. O. Cobb.

P. A. Surgeon J. O. Cobb, relieved from command of service at Fort Stanton, N. M., and directed to report to medical officer in command for duty.

P. A. Surgeon M. J. Rosenau, upon completion of duty at Paris, France, to rejoin station as director of Hygienic Laboratory, Washington, D. C.

Asst.-Surgeon John McMullen, relieved from duty at Tortugas quarantine, and directed to proceed to Savannah, Ga., quarantine station for temporary duty.

Asst.-Surgeon W. A. Korn, granted leave of absence for seven days from Dec. 24.

Junior Hospital Steward E. T. Olsen, granted leave of absence for ten days from Dec. 22.

APPOINTMENT.

A. C. Fraser, of Wisconsin, appointed acting asst.-surgeon for duty at the port of Manitowoc, Wis.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Dec. 21, 1900:

SMALLPOX—UNITED STATES.

District of Columbia: Dec. 15, 5 cases.
Illinois: Chicago: Dec. 8-15, 2 cases.
Kansas: Wichita, Dec. 8-15, 11 cases.
Kentucky: Lexington, Dec. 8-15, 2 cases.
Michigan: Detroit, Dec. 8-15, 2 cases.
Minnesota: Minneapolis, Dec. 8-15, 7 cases.
Nebraska: Omaha, Dec. 1-8, 3 cases.
New Hampshire: Manchester, Dec. 8-15, 22 cases.
New Jersey: Jersey City, Dec. 8-16, 1 case.
New York: New York, Dec. 15, 15 cases.
Ohio: Ashtabula, Dec. 8-15, 2 cases; Cleveland, Dec. 8-15, 37 cases; Portsmouth, Dec. 8-15, 2 cases.
Pennsylvania: Erie, Dec. 15, 5 cases.
South Carolina: Greenville, Dec. 8-15, 2 cases.
Tennessee: Memphis, Dec. 8-15, 1 case.
Texas: Houston, Dec. 15, 18 cases.
Utah: Salt Lake City, Dec. 8-15, 40 cases, 1 death.
West Virginia: Wheeling, Dec. 15, 8 cases.
Wisconsin: Milwaukee, Dec. 8-15, 1 case.

SMALLPOX—FOREIGN.

Bohemia: Prague, Nov. 24-Dec. 1, 46 cases, 1 death.
Brazil: Pernambuco, Nov. 15, 16 deaths; Rio de Janeiro, Oct. 16-31, 43 deaths.
Egypt: Alexandria, Nov. 27, 3 cases, 1 death.
England: London, Nov. 24-Dec. 1, 14 cases, 1 death; Sunderland, Dec. 1, 1 case.
France: Paris, Dec. 1, 17 deaths.
Gibraltar: Nov. 25, 1 case.
Greece: Athens, Dec. 1, 2 cases.
India: Calcutta, Nov. 3-15, 8 deaths.
Mexico: Mexico, Dec. 2, 1 case; Tuxpan, Dec. 3-10, 3 deaths
Russia: Moscow, Nov. 17-24, 3 cases, 1 death; Odessa, Nov. 24, 62 cases, 15 deaths; St. Petersburg, Nov. 24, 5 cases, 2 deaths; Warsaw, Nov. 24, 25 deaths.
Scotland: Glasgow, Dec. 7, 45 cases, 1 death.
Spain: Corunna, Nov. 3, 2 deaths; Valencia, Dec. 2, 1 case.

YELLOW FEVER.

Brazil: Rio de Janeiro, Oct. 16-31, 2 deaths.
Mexico: Vera Cruz, Dec. 8, 2 deaths; Yucatan, Nov. 30, 1 death.

CHOLERA.

India: Bombay, Nov. 13-20, 7 deaths; Calcutta, Nov. 3-15, 35 deaths; Madras, Nov. 10-16, 2 cases, 1 death.
Straits Settlements: Singapore, Nov. 3, 6 deaths.

PLAGUE—FOREIGN AND INSULAR.

Brazil: Rio de Janeiro, Oct. 16-31, 9 deaths.
India: Bombay, Nov. 13-20, 125 deaths; Madras, Nov. 10-16, 1 death.
Philippine Islands: Manila, Nov. 3, 3 cases, 1 death.

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The personal history, however, surpasses in point of import the family history. The age of the patient is worthy of consideration, and the fact that the disease is not uncommon in middle or even advanced life must be recollected. Since the increased prevalence of influenza, dating from the winter of 1889-90, senile phthisis has become more common than it had been previously. The occupation, station, loss of weight and various details connected with the previous environment must be carefully noted and judiciously weighed. Knopf[9] has very properly emphasized the importance of determining whether the patient ever came into direct, prolonged contact with a consumptive or a patient suffering from bronchial pulmonary disease.

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* Presented in a Symposium on Tuberculosis, to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Physical Examination.—The paralytic thorax is generally in evidence during the initial stage of pulmonary tuberculosis and should be looked on as the resultant of an incipient tuberculous process in the majority of cases rather than an antecedent condition. It must not, however, be confounded with an extreme emaciation nor the deformity which simulates it, due to occupation, as habitually leaning over a desk, and the like. Conversely, the flattened chest, with its short antero-posterior diameter (paralytic thorax), may be concealed in subjects of obesity during the incipient stage. I am in thorough agreement with Loomis[10] that the data obtained by measuring the circumference of the chest are more important than its shape. This thoracic perimeter, which represents two measurements, one at the end of forced expiration and the other of forced inspiration, should never fall below one-half the height of the individual. It has been shown that when the thoracic perimeter is lower than this, early phthisis exists, although this may assume a latent form. In connection with the phthisical thorax and chest measurements, the vital capacity as determined by the spirometer, is of confirmatory value in diagnosis, particularly when considered in relation to the height. This method is fully described by Loomis,[10] to whose article I must refer the Section for detailed information.

Preceding the finding of bacilli in the expectoration, obvious physical signs, variable in character, are quite commonly met with, and may endure for weeks, or even months, ere the diagnosis is set at absolute rest by the stage of the microscope. These abnormities are first detected in the subapical regions, and in my cases they have occurred posteriorly in, perhaps, the majority of instances. Turban wisely remarks that "The scapula must be abducted by drawing the arm across the chest, so as to give access to the cage of the chest between its edge and the spine." He also states that light and single percussion must be used. I have for years given preference to single as compared with multiple blows in early cases in which it was desired to outline minute consolidated areas. I have also frequently convinced myself of the practical importance of percussing every inch of ground when a search for the primary lesions in the usual situation (subapical area) gives a negative result. Among the earliest and perhaps the most significant signs is the diminution or almost total loss of the normal vesicular murmur. To test the strength or weakness of the vesicular quality of the murmur, the corresponding regions on the two sides must be invariably compared, both during quiet and deep breathing. Coupled with or following on enfeeblement of the normal vesicular murmur, prolongation and sharpening of the expiration are generally noted. The tactile fremitus may also be increased, but this is often absent on account of associated pleurisy. I regard defective expansion at or a little below one apex as profoundly significant, particularly if observed in the infraclavicular spaces, and in some of my cases "lagging" was the first and for a considerable period of time the only recognizable physical sign. It is best appreciated by palpation. The most characteristic grouping of physical signs during the first stage—sometimes in evidence prior to the discovery of tubercle bacilli—may be thus summarized: "Lagging," or defective expansion, as noted in inspection and palpation, a localized increase in the tactile fremitus, enfeeblement of the normal vesicular murmur with (at a later period) prolongation and sharpening of the expiration. To the signs mentioned above should be added a clicking râle, which, though less commonly present, is an almost conclusive indication.

The percussion note may be impaired or deadened, but this sign is quite unreliable in the earliest period, becoming more trustworthy, however, as consolidation progresses. A pleuritic friction sound may be rarely heard in the apical area; it is usually dependent on the tuberculous process. Later crepitant and subcrepitant râles (moist sounds) are heard, and greatly increase the probability that tuberculous infiltration has taken place. Among other suggestive, invasive symptoms and conditions are:

1. Pleurisy. This may take the form of serofibrinous pleurisy, inasmuch as about one-third of these cases terminate in chronic phthisis—Bowditch. It may also assume the guise of a dry pleurisy at the apex, either anteriorly or posteriorly.

2. Gastrointestinal symptoms, with chloro-anemia. The digestion is impaired; there is a rapid loss of flesh and strength, and an afternoon rise of temperature, with pronounced anemia. This grouping of features (chloro-anemia) is often followed by the appearance of the earlier positive indications of pulmonary tuberculosis.

3. Hemoptysis. This may be the first symptom to excite suspicion of lung disease. In many of these cases a typical picture of incipient pulmonary tuberculosis is found on examination, and they may pursue the usual course, showing that a slight tuberculous lesion was an antecedent condition. I would here throw out the caution that all other causes for the spitting of blood should be carefully excluded, unless the evidences of commencing phthisis are conclusive at the time of the occurrence of the primary hemorrhage.

4. Onset with symptoms of laryngitis. Although rare, there are cases occasionally met, characterized by hoarseness, aphonia and troublesome cough, with a slight mucopurulent expectoration. The bacilli may be found in the sputum before any lesions of the lungs are discoverable. C. N. Haskell[11] regards headaches and indigestion as two of the most important remote symptoms of consumption. Two cases were recently met in my own experience that tend to strengthen the view expressed by this observer.

The clinical evidences of commencing phthisis mentioned above justify a probable diagnosis; they are diagnostic aids, and if two or more are found in combination, as is usual, should be regarded as presenting the therapeutic indications of this affection. It has been argued that the physical signs furnish the basis of an assured diagnosis. While it must be conceded that the physical signs enable a keen observer to recognize with reasonable certainty the existence of phthisis—at times before all doubt is removed by the stage of the microscope—it is even more true that once these signs disclose the presence of pulmonary tuberculosis, the disease has passed beyond the incipient stage as this term is understood at present writing.

The presence of a slight afternoon rise of temperature, if associated with either local or general disturbance, should arouse strong suspicion, since it would be difficult to overestimate the diagnostic importance of this symptom.

A two-hourly thermometric record must be kept during the entire day, for several days together, or the rise of temperature may elude detection. Barlow states that if the temperature is elevated from 2 to 5 degrees p.m., or one slightly above the normal night temperature in the evening, the probabilities are greatly in favor of tuberculosis. Trudeau[12] points out that when any disturbance of health exists, and the evening temperature runs above 99.5 F., there is almost surely tuberculosis present. Turban[2], among recent writers, also believes frequent thermometric estimations of the temperature to be extremely helpful. He urges to test the temperature after exertion, taking between 4 and 6 o'clock in the afternoon, if doubt remains as to the presence of fever. Louis long since asserted that fever starts in a third of the cases with the first local symptoms, and even before then; in another fifth of the cases it is manifested in the course of the first period. Sydney Ringer[13] points out that the exacerbation of fever coincides with the evening elevation which takes place normally, and that it is now characterized by an acceleration of the pulse, which makes the fever appear more intense than it is in reality.

Sée[6] observes that the application of the thermometer permits us to distinguish this state from chlorosis, "which but rarely provokes a like excitement of the heart and never hyperthermia." Fever may be present for a long period of time before the sputum-test gives a positive result. On the other hand, as Makenzie[15] asserts, in cases with a fair number of bacilli in the expectoration, the temperature may be for weeks perfectly normal. It is a matter of congratulation that from the standpoint of temperature a reasonably certain diagnosis is easily possible and also that the profession is not divided at present in regard to this question. Here may be pointed out, what is well understood, that an intermittent fever simulating that of malaria is not rarely seen in tuberculosis at its commencement. It is distinguished from malarial fever only by a careful blood examination, which shows the absence of the plasmodium. Even an elevation of temperature due to other causes, such as anemia, suppuration and the like, is also easily eliminated by a blood examination.

A quickened pulse is often present at the outset, preceding the appearance of bacilli in the sputum by weeks and even months, and it is suggestive, although less so than the brief afternoon febrile movement. On the other hand, certain observers claim that the pulse in early phthisis is characteristic. According to my observations, the heart-beat is not constantly accelerated at this period. I have, however, observed that a rapid, feeble pulse is one of the almost unvarying features of early phthisis in the very young. When at this period of life the pulse has been found rapid and feeble, it has served in my experience to corroborate strongly the diagnosis. Knopf states that taking the "arterial pressure with the aid of Potain's sphygmomanometer is a most valuable help in diagnosing an early pulmonary tuberculosis." The instrument enables one to easily determine the arterial pressure of the patient; this is usually diminished, as shown by Papillon's recent examination in Potain's service at the Charité in Paris.

E. F. Wells[15] has found the arterial tension to be early and notably reduced, especially during the febrile exacerbations; he has met with no exceptions to this rule. This writer holds that "sphygmographic tracings give most valuable aid in the diagnosis of early pulmonary tuberculosis, and from these alone the scale may be turned in the great majority of doubtful cases." He illustrates with tracings which show a pulse of lower tension and infantile character. From this "typical curve there are infinite variations in both directions, approaching the normal on the one hand and reaching the most pronounced dicrotism on the other." It is precisely on account of the extreme variability of the arterial tension that I can assign merely a high confirmatory value to the pulse. On the other hand, R. Grandin[16] claims that the arterial pressure varies, being sometimes increased, sometimes decreased. I have been able to verify DaCosta's original observation, that a murmur is sometimes audible over the subclavian or pulmonary artery before either physical signs referable to the lungs are detectable or fever occurs. In three of my cases, abnormal conduction of the cardiac sounds preceded the detection of the usual earliest signs of commencing consolidation—two in left-sided and one in right-sided pulmonary tuberculosis. In all of them tubercle bacilli were subsequently found in the expectoration, and since all were observed within the last year, this sign may on receiving greater attention prove to be more profoundly significant as a diagnostic factor than when, as is usual, it occurs at a later period. In one of my cases this was the only clinical indication that aroused suspicion that the disease might be developing, apart from slight, dry cough that had lasted a couple of weeks.

The Tuberculin Test.—This enables the physician to clear the nature of latent forms and dubious cases, however incipient; its value depends principally on the fact that it permits of the recognition of the disease before its presence can be otherwise determined. As showing the value of the tuberculin test for the early diagnosis of pulmonary tuberculosis, I will in the first place cite three cases that were recently met in my practice and reported elsewhere.[17] The first occurred in a lad aged 14, who had always been in delicate health. The illness for which he consulted me had commenced four weeks previously with symptoms that were distinctly typhoidal in character, and later a positive Widal reaction was obtained. A physical examination at my first visit revealed only a phthisical thorax. After the fever had declined an injection of tuberculin (2 mg.) gave a positive reaction. An X-ray photograph was then taken, and showed slight, though decisive, haziness.

The second case was one of suspected acute tuberculosis. The diagnosis was confirmed by the tuberculin test. The necropsy was held six weeks later by Dr. MacFarland, who found miliary tuberculosis following Pott's disease, with beginning psoas abscess. He found, it is interesting to note, "each tubercle surrounded by a zone of hyperemic vessels, which gave it a dark bluish-purple color," and observed also that its center was softened and depressed.

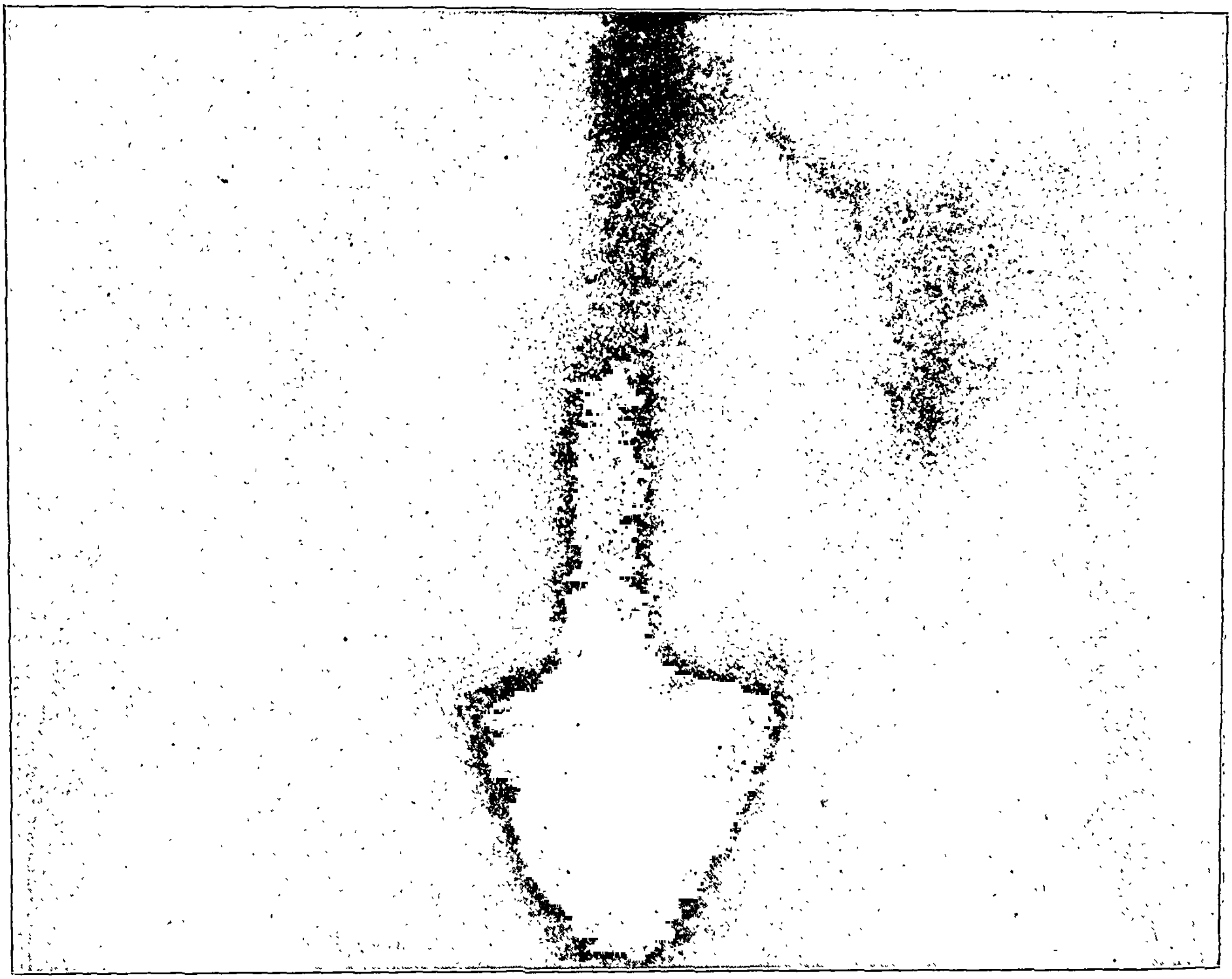
My third case occurred in J. H., aged 19 years, occupation, laborer; he was admitted to the wards of the Medico-Chirurgical Hospital, Jan. 2, 1900. There was no history of family tuberculous taint, and the patient had enjoyed good health until February, 1899, when he took a severe cold, following upon which he continued to cough until the onset of the illness for which he applied. On December 30, while stooping to lift a heavy weight, he suddenly experienced a warm saline taste, which suddenly led to cough, accompanied by the expectoration of a small amount of bright red, frothy blood. Physical examination showed nothing save a few subcrepitant râles in left scapular region. Both fluoroscopic examination of the thorax and repeated microscopic examination of the sputum gave a negative result. On the other hand, an injection of tuberculin (1 mg.) responded positively. The patient's sputum afterward showed the presence of tubercle bacilli.

There is little if any diversity of professional opinion among those who have had considerable experience with the tuberculin test as to its diagnostic value when judiciously employed. As pointed out in a previous article, "its use for diagnostic purposes has been condemned by writers who, almost without exception, failed to avail themselves of an opportunity to make a practical test."

I am deeply impressed with the belief, from a limited experience only, that its more general employment, with judicious care, would re-establish its superior value, in properly selected incipient cases. Among those writers who are entitled to be heard and who have spoken in no uncertain tones in favor of tuberculin as a diagnostic agent in tuberculosis are J. T. Whittaker,[18], M. Beck,[19] E. L. Trudeau,[20] F. W. White,[21] A. C. Klebs,[22] G. G. Sears,[21] E. O. Otis,[23] *Von Jaksch,*[24] *and others.*

I have prepared two tables, which appear in my article (to which reference has been made above), Table No. 1 showing the total number of cases that have been injected with tuberculin—3638—the total number of positive reactions—2185, or 78 per cent.—and the dosage and particular preparation employed by different observers. With a view to obtaining greater accuracy of results, a consideration of the character of the cases at the time of the injections was deemed necessary, and this method was adopted in Table No. 2, which sets forth the figures indicating how many were doubtful and how many undoubted instances of the disease at the time of injection, with the percentage of reactions of each respectively.

In 1470 dubious cases, 71.89 per cent. reacted. What percentage of these cases subsequently developed a confirmed tuberculosis, or the percentage in which the diagnosis was corroborated by necropsy, can not be even approximately told. During my collective investigations, however, I found that writers who had experience with Koch's method referred to individual cases that either came to autopsy and showed tuberculous foci or later manifested the obvious signs and symptoms of the disease. Of the three cases which I recorded above, two were similarly verified, one at the autopsy table, and the other by the detection of tubercle bacilli in the sputum. I have employed tuberculin in 12 suspicious cases, of which 7, or 58.3 per cent., reacted. Is the tuberculin test attended with any risks for the patient? It must be confessed that there is a prevalent impression that tuberculin injections facilitate the diffusion of the bacilli in the system. Virchow,[25] who originally promulgated this view and whose published argument based on his-



Case 1.

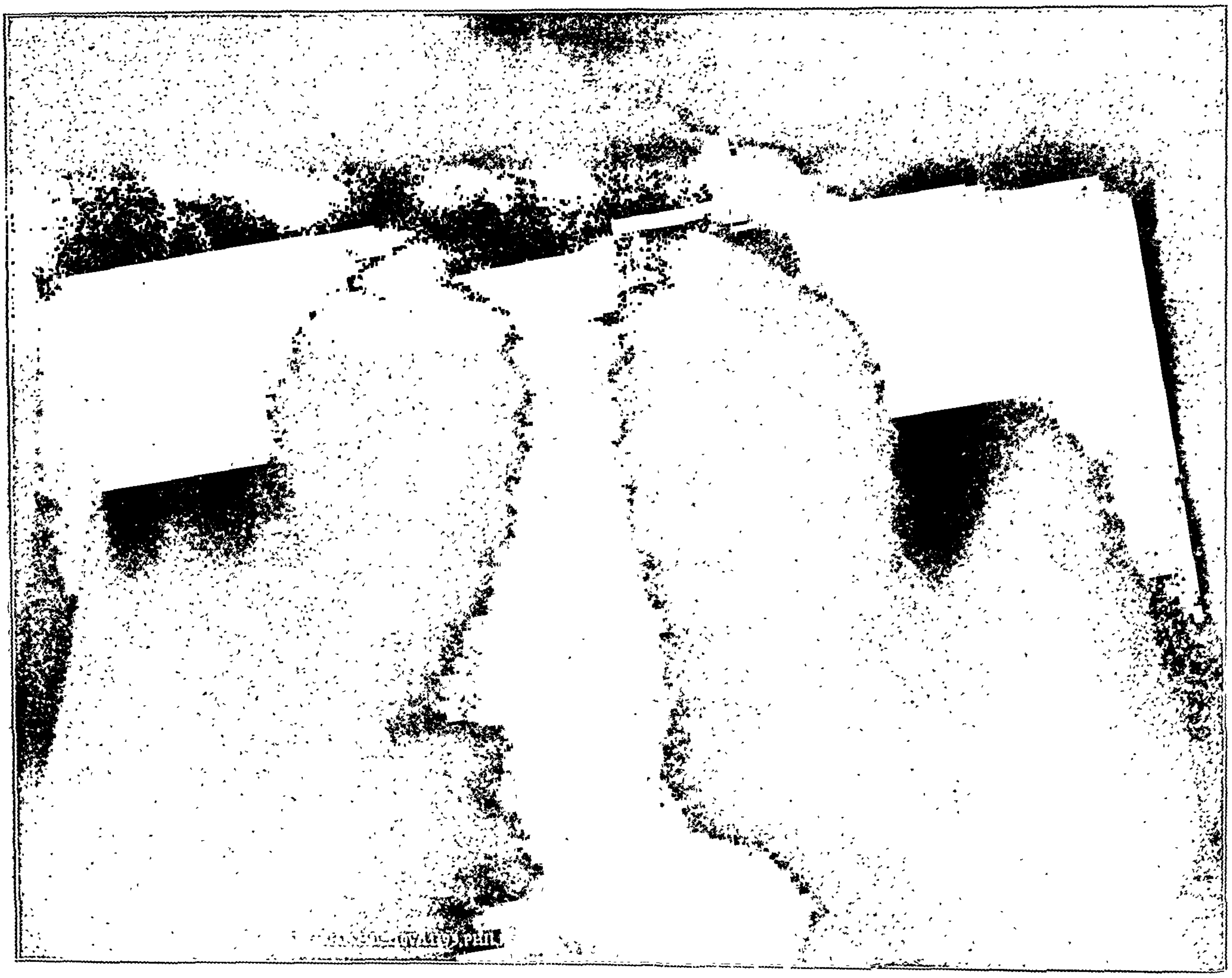
tologic and pathologic data caused tuberculin to fall into almost universal disrepute, has quite recently receded from his former position, and he now approves of Koch's method in selected cases. It is worthy of note that in not a single series of cases among the many included in the tables which I have prepared is mention made of any ill effects. At all events, I have not met a solitary authentic report of a case in which the disease has been disseminated to distant parts of the economy with ensuing acute tuberculosis.

Numerous observers have noted reactions in the so-called non-tuberculous subjects and in individuals suffering from other affections. They have been obtained in leprosy, carcinoma, syphilis, actinomycosis, chlorosis and other affections, as well as in 8 or 9 per cent. of apparently healthy individuals. In reactive cases of this sort, however, unsuspected foci may exist.

The dose and the particular class of cases to which the tuberculin is applicable are questions that demand careful consideration. As elsewhere pointed out, "tuberculin will tend to occupy its true sphere of usefulness just in proportion as the profession will in future keep in mind two rules as a guide, to wit, moderate dosage—mg. 2 to 5—and the limitation of its use to suspicious incipient cases, or those that are unrecognizable by other means." It is to be recollected that early, suspected cases are as a rule sensitive to the test and massive doses are not required.

The symptoms to be expected from a reaction are malaise, general depression, anorexia, headache, pain in the back and limbs, sensation of heat and cold, followed by sweating and an elevation of temperature to 101 F., or over. The reaction usually occurs in about 12 hours, rarely as late as 24 hours, and continues from 24 to 48 hours. If no reaction follows the first injection, a larger dose—up to mg. 10—should be used, but not until after the lapse of several days. As forcibly pointed out by Wells,[16] "in the tuberculin test a negative result is of great importance, because, if the observations have been carefully made, we may affirm that not only is the suspected pulmonary affection not tubercular, but that there are no latent pulmonary foci and that tuberculosis does not exist in other parts of the body."

Among the most valuable agencies for the early diagnosis of pulmonary tuberculosis are the Roentgen rays. In phthisis these radioscopic appearances are usually observed in the subapical regions, and they sometimes show the presence of tuberculous infiltration and consolidated areas before either the physical signs are obvious or the microscopic slide demonstrates the tubercle bacilli in the sputum. It is doubtless true that reliable knowledge from the use of the Roentgen rays and fluoroscope is possible only to an expert or an experienced observer. Again, the value of this means of recognizing pulmonary tuberculosis in its first stage would be greatly increased, if the images shown by the fluoroscope could be satisfactorily photographed in all cases. Francis H. Williams[20] states that he has discovered radioscopic evidences of consolidation before physical signs of such change were present; also that he has found indications of the



CASE 2.

istence of tuberculosis when this disease had not been suspected previously. Stubbert[27] has also reported one or two instances in which "slight haziness has been observed in spots which at the time showed no other physical signs of disease, but where they subsequently developed."

The practical utility of the X-rays in the diagnosis of incipient pulmonary tuberculosis may be further illustrated by the notes of the following cases that fell under my care:

CASE 1.—S. H., female, married, age 28 years, cigar-maker, first applied at the outpatient clinic of the Medico-Chirurgical Hospital, June 6, 1899, for treatment. A brother died of acute phthisis. Patient had had some childish disease, but later in life nothing worthy of comment until the onset of the disease for which she sought medical advice. Her illness began with paroxysmal pains in precordia, and this lasted for a considerable period of time. The day previous to her visit, she had expectorated blood, which she states was "coughed up"; quantity of blood was small, bright-red and frothy. The abnormal physical signs were impairment of percussion-note and harsh breathing, with prolonged, high-pitched expiration at right apex; and lack of vesicular quality of the breath sounds, with prolonged, high-pitched expiration at left apex; all signs, however, were less marked than at right apex. Microscopic examination of the sputum gave a negative result. Later, an X-ray examination showed an abnormal shadow or marked haziness at apex of both lungs, more marked at right, i. e., the apex that showed the abnormal signs the more pronounced. (See Fig. 1.)

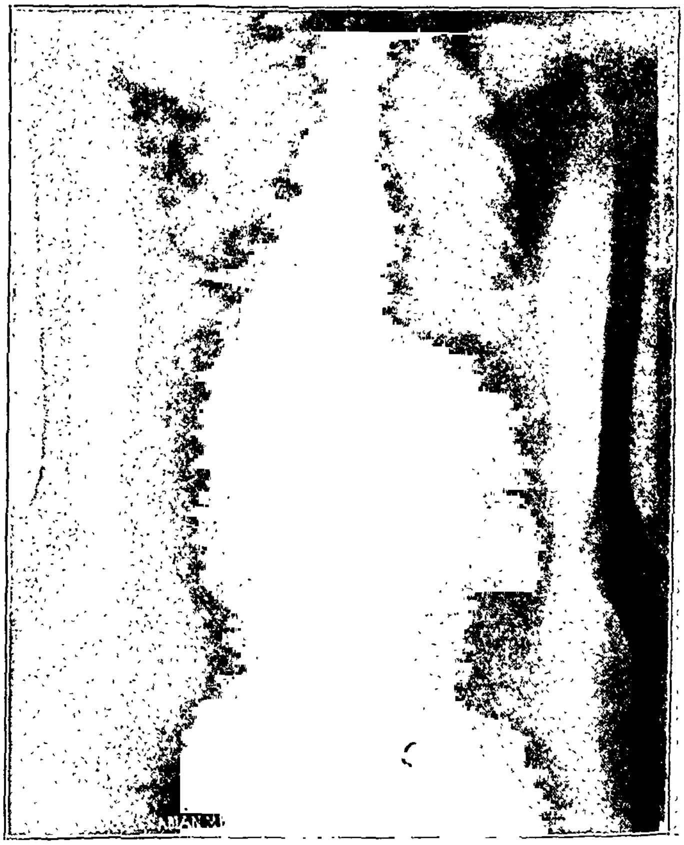
CASE 2.—P. K., age 29 years, cigar-maker, applied for treatment at outpatient clinic, November 10, 1899. The family history is entirely negative as to pulmonary tuberculosis. Patient escaped childish diseases; he had had typhoid fever one and a half years previously, confining him to bed for ten weeks. Since then has been complaining of persistent gastric disturbance, as evidenced by eructations of gas and dull pains in the epigastrium after meals; there has been some dyspnea on exertion and cardiac palpitation at intervals. A few days prior to his first visit, patient began to expectorate bright-red blood; this was still present. Subsequently there was neither cough nor expectoration. The amount of blood lost did not exceed half an ounce. An examination of the throat and larynx gave a negative result, and the same was true of a physical examination of the thorax, although the chest was of the paralytic or phthisical type. After excluding all the causes of hemoptysis except pulmonary tuberculosis, an X-ray picture was made by Dr. Kassabian. This showed commencing consolidation over circumscribed areas on both sides just below the apices. (See Fig. 2.)

CASE 3.—J. O., age 14 years, errand-boy, was admitted to the wards of the Medico-Chirurgical Hospital, November 13, 1899. Father died, aged 52 years, of heart and lung disease, the precise nature of which the patient does not know. One sister is in delicate health. The lad had had the usual diseases of childhood and a severe illness of unknown character a few years since; had always been in delicate health. The present illness began about four weeks before he fell under my observation. The first symptoms complained of were malaise, headache, a slight cough in the evenings and mornings; more or less abdominal pain, associated with slight diarrhea. The evening temperature on admission was on the average about 100 F., but abdominal pain, diarrhea and cough had largely subsided. Physical examination showed a paralytic or phthisical thorax, without any other abnormal physical signs. After excluding typhoid fever, latent tuberculosis was suspected, and tuberculin was injected; this was followed by a positive reaction. An X-ray examination was also made by Dr. Kassabian and showed a slight haziness below the left clavicle. (See Fig. 3.)

Whether or not this patient will develop the more active and obvious lesions of the disease remains to be seen.

CASE 4.—M. B., female, age 17 years, colored, American, housework; fell under the care of Dr. A. E. Blackburn at the outpatient clinic of the Presbyterian Hospital, September 7, 1898. The family history was indefinite; the mother deceased, but cause of death unknown. Patient had had measles in childhood, otherwise the previous history was negative.

Present illness began three years ago with cough and expectoration; these symptoms had persisted until she applied for relief, there was no loss of flesh and no night-sweats. Physical signs at time of first visit: defective expansion, increased tactile fremitus, impaired percussion resonance and increased vocal resonance over right apex, anteriorly, and left apex normal. On November 3, no tubercle bacilli were found: they were found, however, on February 10, 1899. Dulness on percussion and prolonged expiration over right apex. March 30 moist râles at both apices, more marked at right. June 8, beginning cavity formation in right lung at third rib. August 17, signs of cavity well marked in right chest. Photograph of fluoroscopic plate shows a distinct shadow extending from right apex to fourth rib. There is no rare area or bright spot to indicate the presence of a cavity.



CASE 3.

This may have been due to the superimposed dense area occasioned by the thick cavity-wall and pleura; again the cavity may have been filled or nearly so with secretion to account for the absence of the rarer area or bright spot. I regret that the patient had not been minutely examined just prior to the use of the Roentgen rays. The last case reported above (Case 4) can not be classed as an incipient one, but is included because of its great interest, as showing a source of fallacy in skiagraphy in the stage of cavity. The agglutinative reaction is as yet without diagnostic value.

The principal object of this paper is to indicate the comparative infrequency of the presence of tubercle bacilli or of clear physical signs as keys to the situation in the commencing stage. It is obvious that physicians should more generally make use of other aids on which a diagnosis sufficiently accurate for practical purposes could be made, thus affording a basis of therapeutic and climatic indications while the disease is yet amenable to treatment. Among the means previously described, I would re-enumerate points relating to causation, including heredity and the numerous circumstances that expose an individual to infection, and the varied manifestations of the disease at the very onset—embraced under the rarer modes of invasion—described above. A not uncommon association is to find in subjects hereditarily predisposed or thrown into prolonged contact with a consumptive, the later development of suspicious features, which have been grouped above under various heads. The commonest group includes those cases in which a suggestive history is combined with an unproductive, intractable cough. No matter, however, which of the numerous phases this common affection may assume at the onset, certain crucial tests should not be overlooked. I refer particularly to the systematic and persistent use of the clinical thermometer, the tuberculin test and the use of the Roentgen rays—one or all. The adoption of this method is urged, because it has been the most satisfactory for the recognition of phthisis at the earliest possible period. Personal experience enables me to speak with confidence concerning the retrospective diagnostic significance of these clinical criteria, either singly or unitedly; and they establish the existence of a well-defined clinical stage, which is quite variable in duration and presents the ordinary therapeutic indications of this disease. The importance of recognizing this stage springs from the necessity of bringing the cases under appropriate treatment before extensive destructive changes occur and efforts at treatment are hopelessly futile.

It is an accepted position that unless the cell-condition is favorable for the growth and development of the bacilli there is manifested an innate tendency to spontaneous limitation and healing. This fact explains why in more than 50 per cent. of the human family the bacilli not only gain entrance into the body but also effect a lodgment, while less than 14 per cent. of the deaths from all causes are ascribable to tuberculosis. It is true that spontaneous healing occurs most commonly in local varieties of tuberculosis—common in children—as of the lymph glands, bones and joints. I shall deal with the treatment of incipient pulmonary tuberculosis only, and desire to emphasize at the outset that medicines are unquestionably of less value than the more natural agencies, hygienic and climatic, that aim at reinforcing nature's efforts at spontaneous recovery. I have a fixed belief that a successful resistance to the invasive forces in this disease can be best accomplished by an appropriate environment including better hygienic living, better far than by the use of any known serums. The physician often finds well-marked evidences of pulmonary disease at his first examination, and under these circumstances it is clearly his duty to select a suitable climate with particular reference not only to the stage of the affection but more especially to the individual. On the other hand, highly suspicious cases, or such as show afternoon fever, or lung-involvement on fluoroscopic examination, or respond positively to the tuberculin test; even though the microscope fails to reveal bacilli, should be treated in a manner similar to typical incipient tuberculosis, or that showing the presence of tubercle bacilli, since it has been found that these cases usually become characterized soon or late if allowed to drag on without appropriate management. The profession will not awaken to the proper sense of its responsibility until this course is adopted.

The principal object of treatment in all cases is to improve the general nutritive processes, since it is in this way, and in this way only, that the natural defensive processes can gain the day. In general terms, the climatic requisites for consumptives are purity and equability of climate with an abundance of sunshine; dryness of the air and high altitude are of subsidiary value. Delafield's dictum, that that climate "is most suitable in which the patient feels well, eats well and gains in flesh and strength," is excellent. According to my experience, the Adirondack region meets the indications in incipient cases better than any other convenient resort, although I have seen excellent results also from a stay at Thomasville, Ga., Southern California, New Mexico and Colorado. Dr. P. Marvel informs me that Atlantic City gives good results in the more chronic forms of fibroid phthisis. I have found that this popular resort affords excellent advantages during the cold season for incipient cases. The stay should not, in this class of cases, exceed one month or six weeks, and then a change to the mountain resorts already mentioned should be made. Finally, I have witnessed excellent results from a sojourn in the Pocono Mountain region, Pennsylvania. In short, it will be found that an inland locality that affords a pure atmosphere and can boast of the absence of great variations of temperature will produce good results. In this connection I would emphasize the familiar fact that mountain air and that of the virgin forest are helpful, principally because they possess these prime climatic requisites. Forests, particularly pine-groves, favor atmospheric purification, since they generate ozone, which oxidizes the impurities contained in the air; they also favor to an equal extent an equable temperature by maintaining a constant humidity.[28]

As elsewhere stated, while it is essential to send patients to suitable resorts, the most satisfactory results are obtained from the combined climatic and sanatorium treatment. If situated in a suitable climate, and if properly officered and well equipped, they show results that surpass all other known methods of treatment. The principal advantages offered are due to rigid system of hygiene under the close supervision of competent medical officers. As pointed out in a recent paper,[29] there are a large group of cases of incipient pulmonary tuberculosis among the middle and lower classes that require institutional treatment. For such, sanatoria conveniently located in close proximity to large municipalities, though with special reference to such factors as purity of atmosphere and protection from chilly blasts, by natural elevations or the woodland, should be selected. It is scarcely possible to obtain for them the most salutary climate.

[illegible] must bestow close attention on the [illegible] on the condition of the gastrointestinal tract. A preliminary course of gastric antiseptics and stomachics, coupled with an open-air existence little short of injurious exposure, sometimes stimulates the appetite, which is usually poor or even lost, and increases digestive power. The appetite may be rendered keen by a change of air, especially to the seaside, but the patient should not be sent to the seaside during the warm season, if cough be present. I would strongly advise in favor of a rigid system of feeding, even in the early stages, and the French method of forced feeding deserves a trial if there be absolute loathing of food.

Medicinal agents in the early stages are employed to increase the bodily resistance by improving the principal nutritive functions. I would place creosote in this category; it enjoys the confidence of the profession to a greater degree than any other remedy and its use is sometimes followed by lessened cough and expectoration, amelioration of the night sweats, lessened fever, with a gain of strength and weight. Doses no larger than can be tolerated by the stomach are to be prescribed. Indeed, any remedy that interferes in the slightest degree with the function of the stomach is to be withdrawn immediately. Among the most promising remedies employed with a view to improving the nutritive processes is cod-liver oil, when this agent does not tend to impair the appetite and digestion, but on the other hand is well borne. The hypophosphites are especially serviceable in a large proportion of early cases, and the same is true of arsenic, though, perhaps, in a smaller percentage of instances.

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THE RELATIVE IMPORTANCE OF VALVULAR AND MUSCULAR LESIONS IN DISEASES OF THE HEART.[*]

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It would be incorrect to say that the importance of affections of the myocardium has been but recently recognized; yet it is probably true that the attention of teachers and authors has been much more actively given to these affections during the last four or five years, and that among physicians not engaged in teaching or writing, the subject, while not ignored, has not even yet received the attention it deserves.

One reason for this is that until recently, at least, in the didactic lectures, in the clinical lectures, in the ward classes, and in the quiz room, so much stress has been laid on the diagnosis of valvular lesions and the recognition of cardiac murmurs that the average student leaves college with the conception of valvular murmurs and heart disease as synonymous. In post-graduate teaching I have frequently had experienced men, as well as recent graduates, report that a patient's heart was normal because they had failed to find any valvular murmur. Furthermore, in considering the treatment of patients presenting valvular murmurs, what has seemed to have most weight with the majority of physicians, as observed in post-graduate teaching or in consultation practice, has been the name of the valvular condition—mitral regurgitation, aortic regurgitation, mitral stenosis—while comparatively little attention has been paid to the condition of the cardiac musculature or to the blood-vessels. Concerning the great importance of the vascular system in diagnosis, prognosis and treatment, I have frequently written, and in this communication shall merely allude to the matter. Attention is now directed to the importance of the condition of the musculature of the heart, which experience shows, even if *a priori* considerations did not so indicate, means more for the patient's life and comfort than does the condition of the cardiac valves. To this statement there is but one important exception, namely, the case of mitral stenosis with great narrowing; of which more hereafter.

VALVULAR LESIONS.

In many cases of valvular lesions, even of long standing, compensation is so good that under all ordinary conditions of life the function of the heart is performed almost perfectly; and it is only when extraordinary exertion, mental or physical, or extraordinary emotional strain throws an additional burden on the circulation or calls for more quick adjustment of circulatory relations, that the impairment is seriously felt. To drug such a patient because auscultation reveals an organic murmur at base or apex would be to increase his difficulties, not to lessen them. Treatment by regulation of diet and of physical and mental activities may often be judicious and tend to prolong the period of maintained compensation. For many years I used to show to my ward-classes a man past three score and ten, who had a clear history of mitral incompetence for more than thirty years, and who needed no medicine. I have watched a number of children, whose heart-valves were damaged by endocarditis of scarlet fever, grow into adolescence and manhood, even into womanhood with its duties of maternity, and still need no drugging. Sometimes the hypertrophy exceeds the needs of circulatory compensation, in which case temporary diminution of the patient's activity, purging and the judicious use of bromids and aconite will usually subserve the therapeutic indications. But whether or not the treatment outlined suffices, the point to which attention needs to be chiefly directed is distinctly the muscular condition and action, not the valve-lesion. On the other hand, when compensation has not been good, or having been good has begun to fail, the valvular lesion is, in most cases, but a secondary element in prognosis and treatment. As in all engineering problems, all the conditions need to be studied, and the measures appropriate in mitral regurgitation are often ill adapted for aortic stenosis. But it is pre-eminently the failing muscle that needs to be nourished, strengthened, stimulated or regulated. It is the failing muscle from which the burden needs to be lifted by reduction of physical, mental and emotional activities and by therapeutic devices. Unconsciously, however, the therapeutic lesson has become somewhat organized in the automatic motor apparatus of the profession, and physicians who follow the rules laid down in the text-books or by their teachers for the treatment of various valvular lesions, usually adopt measures which are, in the main, directed toward the indications furnished by those signs and symptoms consequent upon the good or bad condition of the cardiac muscle.

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MITRAL NARROWING.

I shall, therefore, not dwell on this phase of the subject, save to direct attention toward the problem presented by cases of mitral narrowing. That this lesion is more common than the older text-books would indicate seems to be becoming the general opinion. Compensation is never fully established, for the obstacle is so placed that neither increased force of cardiac contraction nor increase in the containing capacity of the chamber behind the obstruction can succeed in forcing the due quantity of blood into the left ventricle and thence into the arteries with each systole. Perhaps nothing in cardiac semeiology is more significant than the disproportion between the great systolic energy and the weakness and smallness of the radial pulse, in cases of marked mitral obstruction. In order to permit the muscle to act as effectively as possible under the circumstances, it is necessary not only to dilate the peripheral vessels by nitroglycerin or baths or appropriate exercises, but also to diminish its own wasted and wasting exertions. For this purpose strontium bromid, and even small doses of aconite, carefully watched and regulated, have proved useful; and the apparently paradoxical, but really useful, combination of aconite and digitalis has also been of great service.

HEART DISEASE WITHOUT MURMURS.

It is, however, not in valvular lesions, but in those cases in which rational symptoms of cardiac impairment exist, without murmurs or with inconstant murmurs, that the diagnostic problem becomes most difficult and that routine treatment not only fails to do good but frequently does harm.

ACUTE DILATATION.

I can remember with what diffidence I first made the diagnosis of acute dilatation of the heart, and with how much relief I welcomed the confirmation of this diagnosis by my distinguished teacher called in consultation. Yet acute dilatation, not necessarily fatal, has seemed by later experience not common, it is true, and yet not so rare as to call for the report of isolated cases. In certain subjects it occurs more readily than in others, and the attack may be repeated more than once. I do not refer now to the cardiomyopathies of acute infectious fevers, but to the idiopathic acute dilatation, that is to say, dilatation occurring suddenly or in a comparatively short evolution, from direct strain on the heart.

The readiness with which changes in the size of cardiac chambers may occur is not generally recognized. I recall the case of a boy of 12 years in my dispensary service at the Philadelphia Polyclinic, whom, however, I saw only once, in whose case slight changes of position altered not only the position of the apex but also the transverse area of dulness, as demonstrated by the independent observation of two component diagnosticians. The phenomena of cardiac changes in the warm bath have been made familiar by the publication and multiplication of the observations of the Nauheim school. Fright, and sometimes less severe emotion, especially in the anemic and poorly nourished, will cause acute dilatation of the heart; and this condition may often persist for some time after the cause of disturbance has been removed.

Other causes leading to acute dilatation are the effect of rarefied air at altitudes and sudden, violent, or relatively excessive exertion, as in climbing, bicycling, swimming, or in athletic contests; the general or temporary physical condition of the subject and the physical and psychic environment having much to do in the determination of a relative excess; while the quantitative effort of the skeletal muscles may be less important than its character in determining heart strain. When pericardial adhesions or valvular disease, or innutrition or even latent disease of the myocardium exists, acute dilatation is much more likely to occur.

ACUTE MYOCARDITIS.

Acute myocarditis is common in all the infectious fevers even when endocarditis and pericarditis do not occur. Perhaps rheumatism, diphtheria, typhoid fever, pneumonia and influenza give the most striking examples of this class of cardiac affections, and most physicians recognize this during the persistence of the exciting disease. It is often overlooked, however, after convalescence has begun; and many patients recovering from influenza in particular are allowed to return to active work long before the condition of the heart warrants it. A condition of myopathy is thus set up, and one frequently meets with cases presenting such symptoms of impaired circulation as dyspnea, vertigo, inability to walk rapidly or to climb, sometimes with edema of the extremities, intermittence of the pulse, and precordial distress, in which the origin of the symptoms can apparently be traced to a recent or remote attack of influenza.

CHRONIC MYOPATHIES.

Still more difficult of recognition and more frequently overlooked are the chronic myopathies which have not had distinct origin in some frank infection and which have not followed valvular disease or nephritis.

Recent works upon pathology describe many varieties of myocardial lesion, with various forms of degeneration in the muscular fibers and with varying quantities and distribution of interstitial or substitutional fibrous tissue. Huchard, among the French observers, has made a number of refinements in the nomenclature of these conditions and has described special symptoms observed during life as associated with special forms of myocardial degeneration and interstitial alteration discovered post-mortem. Much of this, however, seems to be premature. It is well that histological studies of the dead heart should be made as systematically as possible, and the utmost information concerning the character of the structural changes gathered: but it is only after a large number of cases shall have been carefully traced in their clinical histories over several years, and the intimate nature of the lesions found after death in such cases carefully collated and compared, that we shall be enabled to analyze the data and establish the signs and symptoms which, observed during life, shall warrant a diagnosis of some special affection of the myocardium. Even the term "myocarditis" as a generic designation seems to be going too far, unless we are prepared to assert that every alteration of the cardiac muscle and every form of increase of connective tissue indicates an inflammation. The French observer's term, gory; it enjoys the confidence of the profession to a greater degree than any other remedy and its use is sometimes followed by lessened cough and expectoration, amelioration of the night sweats, lessened fever, with a gain of strength and weight. Doses no larger than can be tolerated by the stomach are to be prescribed. Indeed, any remedy that interferes in the slightest degree with the function of the stomach is to be withdrawn immediately. Among the most-promising remedies employed with a view to improving the nutritive processes is cod-liver oil, when this agent does not tend to impair the appetite and digestion, but on the other hand is well borne. T[illegible] are especially serviceable in a large [illegible] cases, and the same is true of arsenic, though, perhaps, in a smaller percentage of instances.

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THE RELATIVE IMPORTANCE OF VALVULAR AND MUSCULAR LESIONS IN DISEASES OF THE HEART.*

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PHILADELPHIA.

It would be incorrect to say that the importance of affections of the myocardium has been but recently recognized; yet it is probably true that the attention of teachers and authors has been much more actively given to these affections during the last four or five years, and that among physicians not engaged in teaching or writing, the subject, while not ignored, has not even yet received the attention it deserves.

One reason for this is that until recently, at least, in the didactic lectures, in the clinical lectures, in the ward classes, and in the quiz room, so much stress has been laid on the diagnosis of valvular lesions and the recognition of cardiac murmurs that the average student leaves college with the conception of valvular murmurs and heart disease as synonymous. In post-graduate teaching I have frequently had experienced men, as well as recent graduates, report that a patient's heart was normal because they had failed to find any valvular murmur. Furthermore, in considering the treatment of patients presenting valvular murmurs, what has seemed to have most weight with the majority of physicians, as observed in post-graduate teaching or in consultation practice, has been the name of the valvular condition—mitral regurgitation, aortic regurgitation, mitral stenosis—w[illegible] little attention has been paid to the [illegible] cardiac musculature or to the blood-vessels. Concerning the great importance of the vascular system in diagnosis, prognosis and treatment, I have frequently written, and in this communication shall merely allude to the matter. Attention is now directed to the importance of the condition of the musculature of the heart, which experience shows, even if *a priori* considerations did not so indicate, means more for the patient's life and comfort than does the condition of the cardiac valves. To this *statement there is but one important exception, namely,* the case of mitral stenosis with great narrowing; of which more hereafter.

VALVULAR LESIONS.

In many cases of valvular lesions, even of long standing, compensation is so good that under all ordinary conditions of life the function of the heart is performed almost perfectly; and it is only when extraordinary exertion, mental or physical, or extraordinary emotional strain throws an additional burden on the circulation or calls for more quick adjustment of circulatory relations, that the impairment is seriously felt. To drug such a patient because auscultation reveals an organic murmur at base or apex would be to increase his difficulties, not to lessen them. Treatment by regulation of diet and of physical and mental activities may often be judicious and tend to prolong the period of maintained compensation. For many years I used to show to my ward-classes a man past three score and ten, who had a clear history of mitral incompetence for *more than thirty years, and who needed no medicine.* I have watched a number of children, whose heart-valves were damaged by endocarditis of scarlet fever, grow into adolescence and manhood, even into womanhood with its duties of maternity, and still need no drugging. Sometimes the hypertrophy exceeds the needs of circulatory compensation, in which case temporary diminution of the patient's activity, purging and the judicious use of bromids and aconite will usually subserve the therapeutic indications. But whether or not the treatment outlined suffices, the point to which attention needs to be chiefly directed is distinctly the muscular condition and action, not the valve-lesion. On the other hand, when compensation has not been good, or having been good has begun to fail, the valvular lesion is, in most cases, but a secondary element in prognosis and treatment. As in all engineering problems, *all the conditions* need to be studied, and the measures appropriate in mitral regurgitation are often ill adapted for aortic stenosis. But it is pre-eminently the failing muscle that needs to be nourished, strengthened, stimulated or regulated. It is the failing muscle from which the burden needs to be lifted by reduction of physical, mental and emotional activities and by therapeutic devices. Unconsciously, however, the therapeutic lesson has become somewhat organized in the automatic motor apparatus of the profession, and physicians who follow the rules laid down in the text-books or by their teachers for the treatment of various valvular lesions, usually adopt measures which are, in the main, directed toward the indications furnished by those signs and symptoms consequent upon the good or bad condition of the cardiac muscle.

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MITRAL NARROWING.

I shall, therefore, not dwell on this phase of the subject, save to direct attention toward the problem presented by cases of mitral narrowing. That this lesion is more common than the older text-books would indicate seems to be becoming the general opinion. Compensation is never fully established, for the obstacle is so placed that neither increased force of cardiac contraction nor increase in the containing capacity of the chamber behind the obstruction can succeed in forcing the due quantity of blood into the left ventricle and thence into the arteries with each systole. Perhaps nothing in cardiac semeiology is more significant than the disproportion between the great systolic energy and the weakness and smallness of the radial pulse, in cases of marked mitral obstruction. In order to permit the muscle to act as effectively as possible under the circumstances, it is necessary not only to dilate the peripheral vessels by nitroglycerin or baths or appropriate exercises, but also to diminish its own wasted and wasting exertions. For this purpose strontium bromid, and even small doses of aconite, carefully watched and regulated, have proved useful; and the apparently paradoxical, but really useful, combination of aconite and digitalis has also been of great service.

HEART DISEASE WITHOUT MURMURS.

It is, however, not in valvular lesions, but in those cases in which rational symptoms of cardiac impairment exist, without murmurs or with inconstant murmurs, that the diagnostic problem becomes most difficult and that routine treatment not only fails to do good but frequently does harm.

ACUTE DILATATION.

I can remember with what diffidence I first made the diagnosis of acute dilatation of the heart, and with how much relief I welcomed the confirmation of this diagnosis by my distinguished teacher called in consultation. Yet acute dilatation, not necessarily fatal, has seemed by later experience not common, it is true, and yet not so rare as to call for the report of isolated cases. In certain subjects it occurs more readily than in others, and the attack may be repeated more than once. I do not refer now to the cardiomyopathies of acute infectious fevers, but to the idiopathic acute dilatation, that is to say, dilatation occurring suddenly or in a comparatively short evolution, from direct strain on the heart.

The readiness with which changes in the size of cardiac chambers may occur is not generally recognized. I recall the case of a boy of 12 years in my dispensary service at the Philadelphia Polyclinic, whom, however, I saw only once, in whose case slight changes of position altered not only the position of the apex but also the transverse area of dulness, as demonstrated by the independent observation of two component diagnosticians. The phenomena of cardiac changes in the warm bath have been made familiar by the publication and multiplication of the observations of the Nauheim school. Fright, and sometimes less severe emotion, especially in the anemic and poorly nourished, will cause acute dilatation of the heart; and this condition may often persist for some time after the cause of disturbance has been removed.

Other causes leading to acute dilatation are the effect of rarefied air at altitudes and sudden, violent, or relatively excessive exertion, as in climbing, bicycling, swimming, or in athletic contests; the general or temporary physical condition of the subject and the physical and psychic environment having much to do in the determination of a relative excess; while the quantitative effort of the skeletal muscles may be less important than its character in determining heart strain. When pericardial adhesions or valvular disease, or innutrition or even latent disease of the myocardium exists, acute dilatation is much more likely to occur.

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CAUSATION.

Among the principal causes of disease of the cardiac muscle in American men is the long-continued, even moderate, use of alcohol, and especially when this has been associated with the use of tobacco. I have not observed the same degree of impairment in those who have used alcohol alone or those who have used tobacco alone as in those, and these, of course, form the majority, who have used both. What constitutes temperate use of alcohol or tobacco varies very much with the individual. In some patients disturbance of the cardiac rhythm and irritable and weak over-action of the heart begin soon after the smoking habit has been established. In others it occurs only toward the involution period of the organism; that is, after middle life. It is probable that the changes induced by tobacco are but slight at first, so slight that we are warranted in considering them neuro-functional; but that the long and constant repetition of these disturbances finally, by exhaustion of certain qualities in the cardiac cells, brings about degenerative structural change. The same may be true of alcohol, though the well-known tendency of this drug to produce sclerotic changes in general warrants the belief that in the alcoholic myopathies structural changes are present from the first. Alcohol and tobacco usually give rise to other sclerotic changes also, in the vessels especially, which secondarily lead to impairment of cardiac nutrition by ischemia and to increase of the work placed on the heart to carry on the circulation, owing to the heightening of peripheral resistance. Thus, further changes occur in the cardiac muscle in addition to the direct effect on it of the poisons, and to exhaustion through their influence on the nerves. Gout or lithemia, grouping under this head those general conditions of toxemia associated with the overproduction of uric acid, but in which xanthin and hypoxanthin and other alloxuric products may be equally potent, is often, too, associated with the alcoholic habit; but in cases in which alcohol is used not at all or but moderately, and in which there exist hereditary tendencies to this perversion of metabolism, myopathy is not infrequent. So, too, syphilis, in association with or independent of alcohol, may give rise to changes in the heart, not necessarily gummatous, which in turn give rise to vague clinical symptoms often difficult of interpretation. Sexual excesses, mental strain, especially if worrisome, physical overwork, whether in the serious pursuits of life or in games and athletic exercises, malnutrition, lead poisoning, the abuse of tea and coffee, and, in exceptional cases, emotion, are to be added to the list of causes.

RATIONAL SYMPTOMS.

The symptoms, at first, at least, are usually vague. They are inconstant, not only as regards different cases, but as regards the same case at different times. At first, and sometimes throughout, they may be comprised under the general head of rational rather than physical signs. Death, indeed, may occur suddenly without any known history of either rational or physical signs. It is probable that in most cases, if not all, with the exception of cases of fatty infiltration and fatty degeneration, the earliest stage is one of hypertrophy—a pathologic, not a physiologic or compensatory, hypertrophy—this being followed by exhaustion of the undifferentiated cellular elements out of which new fibers are furnished for growth and repair, and this, in consequence, by degeneration of muscle tissue and proliferation of connective tissue. Overaction, spasmodic and irritable in character, is, therefore, followed by defective and irregular action, and the progress of lesions is marked by a corresponding change in the associated semeiology. Dyspnea, constant or occurring especially on slight exertion, tinnitus aurium, headache, dilatation of the pupil, vertigo, vague sensations of cerebral and precordial distress, sometimes actual pain, not rarely angina pectoris, cervical and occipital pain, slight blueness of the lips, injection and later dulness of the conjunctiva, increased force and tension, later irregularity and intermittence of the pulse, sometimes transient edema, often digestive disturbance, unaccountable languor, drowsiness, undue readiness to fatigue, irritability of temper, sudden cardiac palpitation and occasional and increasing periods of very slow and feeble action of the heart are noted, but not all at the same time or in the same patient. Besides this, it is evident that many of these symptoms are common to a variety of affections. Many of them may result from indigestion, most may occur from anemia, many are associated with nephritis, and they are nearly all to be found in neurasthenia. Especially difficult is it at times to differentiate between the unbalanced action of the neurasthenic heart and the irritability of impaired power of the myopathic heart. One needs to be specially guarded in such a diagnosis, for the statement to a neurasthenic that he has heart disease may so frighten him as to produce it. Murmurs are perhaps more common in neurasthenia than in pure myopathies, the arrhythmia is more changeable in its type, and the general characteristics of the patient are to be taken into consideration. In gouty neurasthenics and in other gouty subjects it is easy to refer to the heart the pain of intercostal neuralgia, and in both gouty and syphilitic subjects it is easy to mistake the pain of costal periostitis for cardiac pain. Sometimes, however, genuine cardiac pain of myopathy or vascular sclerosis, intercostal neuritis and gouty or syphilitic periostitis are all present. Mistakes are only to be avoided by careful observation and weighing all the phenomena of the case.

THE COSTAL FRINGE.

Verging on the definition of physical signs, and I believe quite significant of cardiovascular alteration, are ectases of superficial veins, most marked on the face and thorax; in the latter situation sometimes forming what I have denominated the costal fringe, that is to say, a network of very fine red, pink or blue vessels following the borders of the costal arch like a fringe of embroidery. This, however, is sometimes found in patients presenting no rational or physical symptom of cardiac disease, and is not infallible. Usually the cardiopathic patients who present it show slight permanent enlargement of the liver, and are subject to attacks of engorgement of that viscus.

PHYSICAL SIGNS.

As regards percussion and auscultation, these are, in the late stages of myopathies, quite definite, but not so in the earlier stages. An increase in the precordial dulness in both directions laterally, with displacement of the apex-beat downward and to the left, gradually takes place. Sometimes the increase is irregular in outline, and one suspects localized dilatation of the heart, or cardiac aneurysm. With this at last goes feebleness, perhaps disappearance of apex impact or weakness and diffusion of the wave. An impurity rather than a definite murmur of the systolic sound is among the early signs, as is also, and I think this is quite significant, an approximation in quality between the first and second sounds. The first sound is shortened in duration and its tone becomes more valvular. Sometimes the second sound is relatively or actually accentuated. Later the sounds become rather empty, resembling in rhythm and in character the muffled drum of the fetal heart. This embryocardia is easily recognized, and is significant in diagnosis. Duplication of the first or second sound may be developed. Gallop rhythm is never an early sign, but its evidence of muscle-weakness is always clear, whether in uncomplicated myopathy or in failure of compensation in cases of valvular lesion. Intermittence, even to asystole, is also significant, yet one may watch and wait for three or four minutes before he notes the dropping of a single beat, either with the finger at the wrist or with the ear over the apex, and then several beats may be dropped in a minute, sometimes as many as one beat in every four or five. Sometimes the patient himself has a sensation of stoppage of the heart, and this may or may not be accompanied with an actual intermission. It may take place frequently or but rarely. In one of my cases it was said to occur but once a day. With the patient quiet, whether recumbent or seated, or even standing, there may be neither intermittence nor irregularity; yet slight exertion, or even change of position, induce both. Among the symptoms on which I am acustomed to lay stress in the diagnosis of myopathy is undue readiness to change in the frequency or character of the pulse on slight change in the position, activity, or emotion of the patient. The volume, tension and strength of the pulse vary greatly in different cases or in the same case from day to day, and are, of course, affected by the presence or absence of concomitant disease of the arteries, the latter being usually present. They vary much, also, under medication, more, perhaps, than in uncomplicated valvular disease. Murmurs are sometimes present, constantly or inconstantly, due not so much to sclerotic changes in the valves—although these doubtless occur at times in connection with the sclerotic changes in the parenchyma of the heart—as to relative insufficiency.

For complete closure of the cardiac orifices the valves alone do not suffice. The musculature, not only of the auricular and ventricular walls, but also the papillary muscles, must act perfectly, in order to secure complete occlusion of an orifice in systole. Failure to accomplish this gives rise to adventitious sounds. Sometimes these are so marked that the incorrect diagnosis of valvular lesion is difficult to avoid.

TREATMENT.

In the treatment of these conditions, endeavor should be made to remove or mitigate the exciting causes which are usually in continuous influence. In the cases of coffee, tea, alcohol and tobacco this is extremely difficult, sometimes impossible. The reduction of the mental and physical activities of the patient is usually desirable, though this should not be pushed to excess in early cases, in the absence of such symptoms as edema, or evidence of pulmonary or visceral congestion, because the nervous worry induced may be so harmful as to overbalance the gain. It is always well, however, unless there is some counterindication, to reduce the work placed on the heart by the use of nitroglycerin in small doses; sometimes so little as 1/400 of a grain twice a day answers the purpose. The diet is, of course, to be carefully regulated, the skin and the eliminative functions generally are to be kept in good condition, and all excesses are to be avoided. All this "goes without saying." Warm carbonated, saline baths, with massage and gently resisted movements, after the method of Schott, of Nauheim, but modified to suit the individual patient, have been of great benefit in many of my cases—so much so that the patients have often wished to continue the treatment when I have thought it best to intermit. These measures should never be kept up for too long a period consecutively, though they may be renewed from time to time. The question of exercise in some of these cases is very difficult; for with the gouty and in the early stages of their cardiopathy it is often desirable to prescribe moderate exercise. The tendency of the patient is to do nothing, or to indulge in exercise, as in other things, immoderately and spasmodically. This, therefore, becomes a question of good judgment in the individual case, not only as to the requirements of the case, but as to the trustworthiness of the patient. When severe symptoms are present, absolute rest becomes necessary.

Among drugs to strengthen the heart, improve its nutrition and regulate its action, strychnin is the most generally useful. One may also employ from time to time digitalis, of whose preparations (following Beates) I prefer Merck's German digitalin; adonis, of which a good extract or the glucosid adonidin may be used; spartein sulphate, caffein, cactus, of which last the fluid extract or a solid extract may be used, or strophanthus in the form of tincture or solid extract. Much might be said concerning their choice in different cases, but such is not the main object of this paper, nor does time permit. Whatever drugs are used, none should be used continuously, but judicious alternation should be resorted to, and sometimes combinations will in individual cases act better than single drugs. Arsenic is of service as a general nutrient, as are also iron, gold and sodium chlorid, and sometimes, in syphilitic cases, courses of mercurial inunction. with sweating by means of hot baths, followed by potassium iodid in full doses. In some cases, both of syphilitic and non-syphilitic patients with tobacco heart, potassium iodid in small doses is of service. In gouty cases the strontium salts, both iodid and bromid, have seemed of service, not only as addressed to the underlying condition, but also as soothing the cardiac action. For combination with these, when needed, strontium lactate is an excellent diuretic. In acute conditions of cardiac incompetence, whether in the course of chronic valve and muscle disease or suddenly arising without previous disease, venesection is usually indicated. The heart can not empty itself, the patient is in great danger, and blood should be drawn promptly, fearlessly, and in sufficient quantity to afford relief.

SUMMARY.

1. In the great majority of cases of chronic disease of the heart, the exact site and nature of the valvular lesion, while always to be taken into consideration in treatment, are of less importance therapeutically and prognostically than the state of the cardiac muscles.

2. The most important exception to this general rule is in the case of mitral stenosis with great narrowing. Aconite is often of use in this condition to reduce the excessive muscular effort, even when compensatory hypertrophy has not become sufficient.

3. In many cases in which no evidence of valvular lesion can be detected during life, and in some of which slight valvular alterations, in others normal valves, are

demonstrable after death, there exist rational signs of cardiac incompetence which are due to diseases of the cardiac muscle.

4. The symptoms and physical signs of cardiac myopathy are inconstant, and in the early history of the case may be slight. In the absence of valvular lesions, intermittence or irregularities of the pulse or apex-beat, disturbance of rate or rhythm by slight causes, and recurrent pain referred to the precordium, in non-hys*terical and non-neurasthenic subjects*, are the principal local symptoms calling attention to the disease of the cardiac muscle. Tinnitus, vertigo, dyspnea, venous ectases, visceral congestion, edema, and other evidences of circulatory disturbance may be slight and escape attention until sought for. There is usually impurity or weakness of the first sound of the heart, with approximation of the two sounds in quality or relative accentuation of the second sound; later embryocardia and gallop rhythm may develop.

5. Gout, syphilis, alcohol and tobacco, tea and coffee, sexual excesses, mental strain and physical overwork, *either in serious pursuits or sports, are among the chief* provocations of disease of the myocardium, apart from those lesions *secondary to the acute infections* or consecutive to nephritis or valvular disease. Among the acute *infections, influenza is a frequent cause of cardiac* muscle disease.

6. Other than the general diagnosis of disease of the myocardium, there is not yet sufficient knowledge of clinical signs to permit accurate recognition antemortem of the pathological nature of the lesion.

7. The diagnosis between neurasthenia of the heart and disease of the myocardium may be difficult.

8. The *chief importance of the subject lies in the* avoidance of error; *a,* in the prognosis and treatment of valvular disease which may be overtreated or undertreated through failure to estimate properly the condition of the muscle; *b,* in the recognition of serious lesion of the muscular structure of the heart in cases that have been supposed to be normal because *of the absence of valvular murmurs; c,* in the distinction between organic muscular lesions and functional disturbance, and in the realization of the fact that the latter may lead to the former.

9. In treatment, judicious regulation of diet, rest and exercise; avoidance of exciting causes and excesses of any kind; the good functional condition of the skin and eliminative organs, are of the *first importance.* Warm, saline, carbonated baths and, in some cases, gentle massage and resistance exercises carefuly adapted to the individual case, are of great benefit. Nitroglycerin is the most useful single agent of the materia medica. Strychnin, digitalis, adonis, cactus, strophanthus and spartein have usefulness in individual cases. Arsenic, gold and sodium chlorid and iron are useful tonics. Potassium iodid and mercurials sometimes have special indication. Venesection should be made promptly and sufficiently in the case of sudden and urgent symptoms of cardiac failure.

Amalgamation of Parisian Societies.—Several of the Paris medical, surgical and therapeutic societies are seriously discussing the question of federating, to the extent of allowing the members of one society free access to the meetings of the rest, and publishing a common bulletin of the transactions, otherwise retaining autonomy. Among other arguments in favor of the plan are the increased attendance, stimulated emulation, greater publicity and, above all, the better utilization of the treasures of practical experience too often lost at present.

A CLINICAL STUDY OF MYOCARDITIS.[*]

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It happens in every one's experience that at particular times clinical observation is specially rich in a single direction. So it has seemed to me that during the past year there have been under observation, both in hospital and *private practice,* a great number of cases in which the heart muscle seemed to be primarily at fault. From the study of these cases I have come to believe that disease of the heart muscle is a greater factor in the condition of *many* patients than is usually believed; particularly have I been more and more impressed with the fact that the importance of valvular and arterial disease depends on the behavior of the heart muscle in connection with these lesions. A recognition of the interpendence of arterial and myocardial disease moreover gives new interest and importance to the early recognition of a tendency to an increase of arterial tension. The *first indication to the patient of* this condition may come through the failure of the heart after having struggled a long time *with high arterial* tension. The same is true of valvular disease. The lower grades of incompetency of the valves *give little* or no discomfort so long as the muscle of the heart is intact. These lesions only give symptoms when *some disturbance of the heart muscle renders them relatively* important.

The lesions of the valves are detected by auscultation. Auscultation also renders valuable aid in detecting the condition of the heart muscle, but the great test is the capacity of the muscle to respond to additional work, and if the choice were given of an examination of the heart by direct or indirect methods, *I believe* the most valuable information would be received by testing the heart's power under varying conditions. A man who can go up stairs rapidly without loss of breath or undue increase in the pulse-rate has certainly a fairly sound heart-muscle. Another man subjected to the same test might show marked signs of distress. *yet these men, when examined quietly in bed, would perhaps* give practically the same myocardial signs.

Myocarditis is eminently a *clinical disease in that* the gross post-mortem findings are not co-ordinate with clinical symptoms. A poor heart doing good work may give far less marked symptoms than a good heart doing poor work, *and yet the hope for the future of the latter is far brighter than the former.* So while there are well-marked cases that *we may study and catalogue* with a fair degree of confidence, there are other cases in which it must be confessed there will *always* be doubt as to the degree of competency of the heart-muscle. A great deal depends on the blood-vessels. A temporary anemia of a damaged heart through the spasmodic contraction of the *coronary arteries may* cause a fatal attack of angina, while had the patient escaped such an accident he might have lived for years in comparative comfort. We have seen in the hospital patients living for months and years with progressive degeneration of the heart, until finally when they died it was a source of wonder how a heart so degenerated could have carried on its work. Perhaps the most acute cases of myocarditis are the syphilitic ones. In some of these, particularly the untreated cases, the disease directly attacks the heart, and we have a true syphilitic inflammation. In others it follows the type of a more chronic form. In either case the indications for active treatment are urgent.

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There are two great divisions of myocarditis, which also divide the condition into two very nice clinical groups, diseases of the myocardium, due to the direct influence of infectious disease on the heart muscle, and, second, myocarditis, due to the indirect influence of disease of the blood-vessels or the participation of the muscles in the causes of this disease.

Disease of the blood-vessels acts in two ways in interfering with the integrity of the heart-muscle. It renders the work of the heart more difficult by making it necessary to overcome greater resistance on account of the inelasticity of the vessels, and it also interferes directly with the blood-supply to the muscle itself through disease of the coronary arteries.

The relation of pain to cardiac disease is worthy of study. The interior of the heart is, of course, insensitive to pain, and extensive valvulitis may exist and the patient be entirely unconscious of it. Pericarditis gives pain and tenderness on pressure over the heart. Patients with chronic cardiac disease do suffer from time to time more or less discomfort in the region of the heart, though pain in this region is so common that it is almost an axiom that most pain supposed by patients to be from the heart is of gastric origin. However, connected with chronic cardiac disease is a form of pain of extraordinary severity and terrible significance. Angina pectoris is an agonizing pain in the region of the heart shooting to the shoulders and frequently accompanied by the sense of impending death. All attacks are not so severe. No definite explanation of angina pectoris has ever been offered. True angina is invariably associated, however, with disease of the arteries of the heart and of the heart-muscle. The attacks are sudden in their onset and usually end in recovery. Death during an attack is, however, frequent, though sudden death often occurs in patients subject to angina without the definite development of an attack.

The significance of pain in the left shoulder and breast, when occurring in a severe neuralgic form, is always a topic of interest. Particularly is this so when occurring in persons with no recognized cardiac disease. From observation of such patients it seems to me that such pain is of cardiac origin in a much greater proportion of cases than we realize. Its significance is often hard to make out because these patients go on for months and years without any sensation. Their hearts sometimes act better and sometimes worse, and from time to time they have attacks of pain, but these attacks of pain do not bear any relation to the cardiac action, yet occurring as they do in these subjects we can not but believe that they are of cardiac origin. The lesson to be learned is that when persons past middle life are subject to attacks of severe pain, referring to the left breast and the left shoulder, there is reason to suspect myocardiac disease and institute a careful observation. Cardiac pain has been too definitely classified, for there is no real distinction except in degree between the slighter and the most severe forms. Nor is the pain always confined to one side of the chest. The heart itself is not liable to tenderness. It is an anatomical fact that there is a connection between the nerves of various viscera and the nerves of the corresponding portions of the surface of the body. From this fact it is possible for a disease of a viscus to cause pain and tenderness of the overlying tissues.

The chief symptom of myocarditis is a failure in the power of the heart to respond to demands of extra work, though this is not the symptom that is first developed. The earliest symptom is an irregularity in force and rhythm. The origin of this symptom is probably in the muscle itself in that it does not respond with regularity [illegible] nervous stimuli. There is another [illegible] e and rhythm that undoubtedly has its action in irregularity of the nerves themselves. It is between these two causes of this symptom that the greatest difficulty of diagnosis arises, and there are cases in which one can only be certain of the existence of myocarditis when there is developed a deficiency in the power of the heart-muscle.

There is no element in the diagnosis of a case that is so difficult to define and yet which makes so profound an impression on the diagnostician as the quality of the pulse. The other day I saw a patient suffering from a slight cold and not supposed to be in any way seriously ill, nor could I by careful examination and questioning define any symptoms of serious disease, and yet her pulse, though not quick, was of a character that showed an incapacity of the heart to do its work. Each beat seemed to throw a mass of blood through the artery like a projectile, the tension between the beats apparently being nothing. The woman was large and not at all firm in her mucular tissue, and had suffered from an attack of pain in the left shoulder at one time recently. This made a diagnosis of myocarditis justifiable, though as yet she did not suffer any conscious symptoms of cardiac insufficiency.

Myocarditis is unusually common in colored people, possibly due to syphilitic infection and to the natural tendency of mixed races to degenerative changes. In the world at large this relative inefficiency of the heart-muscle accounts for the lack of energy, the inability to maintain continuous labor and militates most forcibly against the progress of the colored race when modified by white blood.

The following case illustrates the development of myocardial changes in a hypertrophied heart. I received an urgent call to see a woman between the ages of 60 and 70 years, and found on arriving at the house that she had been up all night suffering from marked shortness of breath and a hacking cough. At first glance the case almost suggested pneumonia, but that supposition was dispelled by the first question or two into the history. It seems that the patient had had unusually good health, never being ill in any way up to about four years ago. At that time she underwent great sorrow and worry at the time of the death of a near relative, became nervous and much run down. Since then she has not been strong. Two years ago she broke her arm, and was annoyed by this for a long time. Beginning at an indefinite time, but most marked for a year and a half, she had been short of breath on exertion, and has not felt equal to undertaking anything. During the past few months this shortness of breath has been more marked, and particularly so since a few weeks ago, when she [illegible] in climbing the stairs of the elevated railroad and taking a prolonged and difficult trip to a neighboring borough. For the past three days since she has had a cold, her breathing has been quite short at times and she could not lie down with comfort at night.

I found her lying in bed, suffering from considerable dyspnea, with a decidedly anxious expression.

heart apex was well outside and below the nipple line. Over the apex there was an indefinite systolic murmur, but what was most noticeable was a heaving pulsation of the heart with an accentuation of the aortic sound. Palpation gave the impression of a thick, heaving sac. From the commotion the heart was making it would seem incredible that it was not doing its work, and yet it was evident from a careful consideration of the case that the heart was not only hypertrophied but dilated so that while there was considerable muscular action there was an insufficient contraction of the cavity of the heart to carry the blood properly forward.

The effect of large doses of digitalis on myocarditis that had gone untreated, and which are seen in a late stage is interesting. The foregoing case was given 4 minims of the extract of digitalis every four hours. After taking about six doses the effect on the heart was very marked in that the beats became slower and better separated from each other; the cardiac action, which previously seemed like a peristaltic wave in a thick-walled distended sac, became more like heart beats. The cardiac area markedly diminished. With the digitalis was given iodid of sodium in 5-grain doses. Unfortunately, in the anxiety of this most desperate case the digitalis was carried a little too far, for the patient, while being entirely freed from dyspnea, suffered several attacks of faintness, during which the heart action became extremely slow. This passed over, and later on the patient was nauseated and vomited a small amount of clam broth that had been given. The subjective sensation of nausea continued for some time. During the attack of faintness an overzealous friend administered a tremendous dose of whisky, so that may have had something to do with the nausea. However, it was evident that the patient was suffering the physiologic symptoms of digitalis. This heart was so much dilated and action was so bad that we believed it justifiable to push the drug immediately to this extreme limit. Vomiting in such a case does not do any particular harm, and indeed there are theoretic advantages. Vomiting certainly does clear up pulmonary congestion, and it would seem probable that the violent contractions of the diaphragm and chest with the nervous stimulation might give the opportunity for a dilated heart to gather itself together. At any rate, in spite of the disturbance of the digitalis, the patient's heart action was infinitely improved. A gentian mixture containing the iodid of sodium was substituted for the digitalis, and 1/60 grain of strychnin and 1/100 grain of nitroglycerin given on alternating hours. One can not insist too strongly on the importance of complete physical rest in such cases.

Since beginning this paper I have had the opportunity of making a pathologic examination of a case that is so typical of a certain class, and which together with another case forms a picture of syphilitic myocarditis that was most interesting. Two patients were admitted to the hospital three or four days ago; the one a woman complaining of pains in the bones, worse at night, and presenting ulcerations and old scars in the upper tibial region. The scars were pigmented, and the ulcerations were punched out in appearance. There was no difficulty or hesitation in the diagnosis of syphilis, and as no case of syphilis had been presented recently, it was made the occasion for a brief description of this disease. While speaking the house physician informed me that after the clinic there would be an autopsy on a case that I had seen two days before. I went on to describe this case as being typical of fatal visceral syphilis in a comparatively young person. It was a man who came to the hospital without a very clear history except that he had gradually failed in strength. He was well nourished, and had not the appearance of a very sick man as he lay quietly in bed, but an examination of the heart showed that the muscular sounds were feeble and greatly irregular in force and rhythm. The area of cardiac dulness was somewhat increased toward the left. He showed the same scars over the tibiæ. At the autopsy were found in the heart areas of fatty infiltration, patches of whitish thickening and a pallor of the pericardium. The heart-muscle was flabby and there was a moderate degree of atheroma of the vessels. The other organs were fairly healthy, except that there was a moderate amount of fluid in the right pleural cavity. The man had died suddenly without warning, apparently from a failure of the action of the much diseased heart-muscle. This with the case of syphilis made a very striking and terrible picture and illustrated forcibly that type of myocarditis that occurs in comparatively young people from syphilis. It has been well taught that syphilis resembles in type the other infectious diseases, and, though covering a long course, can be compared at all points with the acuter diseases of this class.

The following case, seen in consultation, is a good illustration of myocarditis of a certain type. A man, 39 years of age, gave a history of having for a number of years had attacks of pain in the side, very severe but not very definite in location or constant in character. These attacks came unexpectedly, and between the attacks he felt perfectly well. The pain was not attributed to cardiac disease. However, for about two years he has complained of discomfort in the region of the heart, and at times of dyspnea on exertion. Still, he was not very sick, and kept on with his work as a builder. Two months ago the dyspnea gradually became much worse, so that he could not lie down, and he came under medical treatment. This dyspnea has never been entirely absent since, and he has developed a good deal of edema of the lower extremities. Physical examination shows a man of not unhealthy appearance, and fairly well nourished, but suffering from extreme shortness of breath, which is exaggerated by the slightest exertion. The heart apex is diffused, but is distinctly felt about two inches to the left and an inch below the nipple. The heart's action is rapid and fairly regular, the first sound being indistinct. In the region of the nipple, and also toward the axillary line, there is a short systolic murmur. The sounds at the base are indistinct, and no murmurs referable to the aortic valves can be made out. The pulse is rapid and feeble, the artery being badly filled. The left lung shows feeble breathing toward the base, which condition is more marked in the right, where some coarse râles are heard. The liver is markedly enlarged and tender, though there is apparently no fluid in the abdominal cavity. The legs and thighs are edematous, but there is no edema of the skin of the upper parts of the body. The urine is said to be fair in amount, contains a considerable quantity of albumin, but no casts. So we have a man 39 years old developing all the signs and symptoms of a heart that is enormously dilated, and which has lost the power of carrying on the circulation. An unusual feature of this particular case is that the heart's action, though having progressed so far toward complete failure, still remains fairly regular. The origin of myocarditis in this case is entirely obscure. The man's parents are living and well, so heredity can be excluded. There is no history of specific disease or rheumatism and no abuse of alcohol. The man has worked hard, but apparently not in a way to impair his health. It is probable that there have ben slight arterial changes, which have affected the coronary arteries out of proportion with the general arterial system.

Myocarditis is a penalty that comes to those who are intemperate, whereby the tissues of the body are either poisoned by alcohol or allowed to degenerate from disuse. It comes also to many who are intemperate in work and worry, whereby the heart is, as it were, worn out, and it comes last of all as a complication of inflammation of the endocardium or pericardium as a direct true inflammation. The exaggeration of the importance of valvular disease is only natural when it is considered that the symptoms are so plain that they are among the earliest that come to the attention of the physician and among the most striking that he ever encounters, while on the other hand the condition of the heart-muscle presents many difficulties in diagnosis and prognosis. Still, to the patient student of disease. the heart-muscle will ever afford a fertile field for thought and observation.

A PLEA FOR A MORE RATIONAL PROGNOSIS IN CARDIAC AFFECTIONS.*

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The prognosis of many of the cardiac affections, both of the orifices and of the walls, is frequently given an exaggerated importance not commensurate with the real conditions present. The Father of Medicine has said: The art of physic is of great extent; life short, opportunity slippery, experience fallacious, and judgment difficult. The universal applicability of this dictum is acknowledged, but it is more truthfully applied to diseases of the heart than to any other of the many ills to which flesh is heir. There are so many factors to be considered in arriving at a definite prognosis, that the possession of excellent judgment, the use of accurate observation, and the power to survey the whole situation in a masterly manner, should be concentrated in every case of heart disease. In striving to render an accurate prognosis in this particular sphere of disease manifestation we should establish first, a true estimate of the nature and extent of the changes which have occurred; in other words, the development of the point to which we have briefly alluded. namely, a complete diagnosis. This should be based, not so much upon the physical signs, which are frequently deceptive and limited in character, but on a consideration of organs far removed from the thoracic cavity, whose relations while not intimate, yet are closely affiliated with the results arising from an interference with the circulatory system in consequence of the cardiac disease. Our thoughts should never be centralized on the heart itself to the exclusion of other considerations, which, even more than any conclusions derived from physical signs, may be of paramount importance in aiding us to arrive at a definite prognosis.

In the second place, we should obtain an accurate and comprehensive history as to the causation of the affection, whether produced by a recurrent or non-recurrent disease, the length of time it has persisted, whether it was recognized subjectively, or became known to the patient during a cursory examination, in the line, for example, of life insurance, points which will bear further elucidation.

In the third place, make a close consideration of any special features characterizing the case in question. This last statement must always appeal to the careful diagnostician, for in the whole range of human maladies, there is probably no class in which the undefined personal equation is of so much importance, as in an accurate estimation of the prognosis of heart disease. Given two patients with, for example, a lesion of the mitral valve with exactly similar signs, and alike as to occupation and environment, and the course of the affection may be entirely different. In one the progress may be inevitably downward, despite the administration of remedies of known efficacy, while in the other, the structural integrity of the cardiac tissue may be preserved far beyond our expectations by appropriate treatment. It is stated, and with truth, that physical signs in heart disease can not, at all times, be relied on as evidence of the nature and extent of existing morbid changes and their tendencies. A too narrow reliance must not be placed on the indications afforded by close physical examination. The stethoscope will discover the "physical sign proper," the murmurs, and enable us to place them in the various classes of valvular defect from which they originate. But here its function ends; it does not inform us what is in reserve for this particular patient. Again, it is fully recognized that the quality of the murmur is no guide to the amount of valvular mischief present. The loudest murmurs frequently accompany inconsequential lesions. while at other times, the effects of a valvular defect may be too grave for the production of any murmur. A loud murmur is generally of less serious import than one which is weak and soft; for the former is indicative of force in the heart's action, while weakness of the heart constitutes the greatest of all dangers. Yet it must not be deduced that a soft or weak murmur necessarily signifies either a failing heart or a greatly damaged valve; still a diminution of the intensity of a murmur, gradual or sudden, may confirm unfavorable indications afforded by symptoms. A long murmur, except in a case of mitral or aortic stenosis, is usually an indication of early and comparatively slight disease and of efficient cardiac action, while a short murmur may be and generally is significant of impending danger. An accent at the beginning of a murmur shows that the valves still act as a check on the reflux of blood.

Each case then must be judged on its own individual merits, and this brings us back to our former contention, namely, that the intrinsic value of organs of similar structure varies in different individuals. Intrinsic strength and vitality are not simple qualities but are complex in character—so complex indeed that their consideration means the investigation not alone of the patient himself, but of his progenitors, the diseases of which they died, their power to overcome certain maladies, and to quickly succumb to others, the whole question of heredity, a topic of such immense ramifications as to be practically forbidden even in part, in a paper of the limited scope which I have the honor of presenting. Let me add in connection with this subject, that we are accustomed to note a hereditary tendency to the decay of certain external structures, such as the hair and teeth; is it not plausibl to suppose that the internal and more vital o g.

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follow the same course. Decay is hereditary as to cause, as to structure affected, and also, as to time. These are affected by the interaction of the constitution of parents whereby is produced either an accentuation of the tendencies in certain directions, with a diminution of vital powers in the offspring, or an increase of the vital powers, and the production of a corresponding force to maintain the system against the encroachment of disease, or when once disease has invaded the citadel of health, to fortify it against further advancement. A broad and comprehensive view then of all the factors, both recent and remote, both of health and disease, both of an acquired and hereditary character, must be taken before we can build a stable foundation on which the elements of a correct prognosis can be established. This is the only way in which the true gravity of a lesion can be measured, and we should always strive to determine, first, what has been its effect on the heart itself, then how far beyond its influence has extended. If it is found that a murmur is present, no matter at what orifice, and there is no change in that portion of the heart on which the strain is first exercised, and if it is also known that the murmur has existed a sufficient length of time for the effects of increased work to have been manifested, then it follows that the affection is stationary, and may remain so for an indefinite time. On the other hand, if hypertrophy or dilatation, or both exist, their degree is a test of the actual interference with the heart in its work. Due weight is also given to the condition of the pulse, the presence of dyspnea, or palpitation, or syncope, and to any evidence of interference with the pulmonary or systemic circulation, or of the presence of associated disease.

For the past year I have had visiting my clinic a man 25 years of age, a painter by occupation, to whom some five years ago, a most gloomy prognosis was given, after one examination, and that, from the description, not very carefully accomplished. He had been suffering previously to his coming to the clinic with palpitation, dyspnea and syncope, symptoms consequent on lessened power in the left ventricle. There was but very slight edema. The original lesion was a mitral valvulitis of a regurgitant character caused by rheumatic infection and signalized by a loud blowing murmur heard over the apex and conveyed behind. There was present a moderate amount of dilated hypertrophy with the dilatation in excess. These symptoms had demonstrated themselves for years, and the very chronicity of the disease, combined with a careful uranalysis, and a searching investigation into his family history, led me to give a rather favorable prognosis.

Under appropriate treatment the heart has regained much of its lessening strength, the palpitation has disappeared, and his general condition so much improved that he has followed his occupation, that of a painter, for the past six months without intermission. The element of hope generated in this man's heart, by the rapidity with which his subjectively alarming symptoms were overcome, and the constant iteration of the fact that he would not "suddenly drop dead," as had been intimated to him, was not the least among the therapeutic factors which led to his partial recovery.

If at times the physical signs claim more than their share of importance, there are other occasions in which their significance is minimized, except to the skilled observer. This is particularly noted in men who have passed the meridian of life, whose general nutrition is failing, and in whom are to be found an occasional attack of palpitation and syncope accompanying a feeble heart. These are dangerous symptoms and frequently portend a fatal termination from fatty degeneration. There is a third class found among those who are over-indulgent at the table, and whose systems, now and then, are swept by a wave of uric acid, and in whom gouty manifestations have not had sufficient time to develop those permanent changes associated with that disease. At the height of the attack physical examination will disclose an accentuated aortic second sound, accompanied by a passing insufficiency of the aortic valve with high tension and marked arterial pulsation. If one was to be guided solely by these signs, an inaccurate diagnosis would follow, with a very faulty prognosis; for the administration of suitable remedies rapidly divests the situation of its seriousness, and on the following day the vestiges of the storm are to be found in a headache, subsequent to the disappearance of the tension and other exaggerated symptoms.

In illustration let me briefly refer to the following case: Mrs. G., 32 years of age, with an exceptionally good personal and family history, was seized with an attack of acute indigestion, which rapidly developed into so-called "biliousness." She was a very hearty eater, and particularly fond of sauces and condiments. She had experienced previously several attacks of indigestion, but none so severe as the present. Her temperature was 104, pulse 120, bounding in character and with well-marked tension, the carotid pulsation being clearly perceptible. On auscultation, I discovered a marked insufficiency of the aortic segments, in fact a characteristic aortic regurgitation, so far as the physical signs denoted. I prescribed the usual diet and remedies and the following morning these symptoms of "pernicious activity" had entirely disappeared, and careful auscultation since, on different occasions, has failed to reveal anything abnormal about the heart.

The history of the first attack of endocarditis should always be thoroughly appreciated by the practical physician. It determines the length of time the affection has existed, as well as its tendency toward development. When the morbid condition originates in an acute specific disease, such as scarlet fever, and where a recurrence is not probable, the outlook is more favorable than when it arises from rheumatism, where each new attack may mean an extension of the endocarditis, or new foci of disease where previously none existed. It is impossible to determine during an attack of acute endocarditis what the ultimate outcome will be, whether it will rapidly disappear, and leave no recognizable traces of the acute inflammatory action, or continue for years and finally develop the sequelæ of advanced disintegration of cardiac muscular tissue. There can be no question, for it is a fact frequently confirmed by clinical experience, that resolution, with absorption of the inflammatory products, takes place with consequent disappearance of all physical signs. A murmur may persist for years, and gradually disappear, a fact that should have some weight with candidates for life insurance, who are gauged, naturally, by present conditions, the probabilities of the future disappearance of the murmur being altogether too vague, with the present standard of statistical calculation. The distinction which it is usually most important to ascertain, is between lesions originating in acute endocarditis which may be stationary, and possibly, retrogressive, and those produced by chronic, inflammatory, or degenerative changes, which are inevitably progressive.

However, I do not intend at the present moment to deal with the very interesting question of cardiac prognosis as applied to life insurance, but will postpone its consideration for some future occasion.

The more common results of endocarditis are the persistence of the inflammatory products; the young connective tissue develops into fibrous tissue, which as it develops contracts, and the valves becoming more or less thickened, their function is disabled. But while two hearts may be pathologically identical, clinically they may be widely apart. Some hearts are painfully susceptible to renewed developments of endocarditis with every fresh attack of rheumatism. There are others to which the first attack of endocarditis would appear to provide a certain safeguard, for no matter how many times the system may be involved, subsequently to the first invasion of rheumatism, the endocardium appears to be invulnerable.

In some hearts the area of endocardial inflammation involves but a small portion of the valve, and when the acute manifestations have passed away, the further progress of the disease is of an exceedingly chronic character. In others not only the endocardium, but the muscular tissue of the heart itself becomes engaged in the inflammatory process. In this connection it may be noted, that frequently in patients afflicted with inflammatory rheumatism, an increased area of cardiac dulness does not always mean pericarditis, for we have frequently a dilatation of the heart due directly to the rheumatic toxemia. This is especially noticeable in children, and often before the dilatation passes away, there is a recurrence of the rheumatism, further intensifying the original dilatation, and in time producing retrograde changes in the myocardium which gradually terminate in cardiac failure. This class of cases is frequently found with supposed lesions of the mitral valve, generally of a regurgitant character. We are apt to exaggerate its importance by ascribing the dilatation to its influence. But in all probability the greater part of the dilatation resulting from acute rheumatic attacks is not really due to the co-existing mitral regurgitation, but that both dilatation and regurgitation are persisting effects of the acute attack, the former due to its poisonous influences on the cardiac muscle, the latter to the synchronous endocarditis. I remember during my last year at the University and while on temporary service in Bellevue, having such a case come under my observation. In life there was found a loud blowing systolic murmur at the apex. accompanied by chronic dilatation. The patient finally succumbed to pneumonia. When the case came to autopsy, performed by Welch, now of Johns Hopkins, we found to our great surprise the slight damage to the valve was entirely too limited to satisfactorily explain the dilatation. The principal cause here of that condition was undoubtedly the original rheumatic attack. We should be on our guard then in attributing too much importance to the presence of a systolic apex-murmur, from the standpoint of prognosis, for more depends on the size and strength of the heart, the recognizable modification of structure to be sought for in the perversity of function, rather than in the close consideration of an individual symptom, no matter how prominent.

Let us suppose that the patient comes under observation some time after the original attack of endocarditis, it may be months or years, two, five, ten years, and that a murmur still exists indicating that at some time in the past the heart has been hampered in its work. Prognosis, as has been said, then becomes a problem in proportion. If the heart is in a certain state at the end of a certain time, what will be its condition cæteris paribus in six months or in six years. The longer the interval that has elapsed since the acute inflammation, with more certainty can this be predicted. If in the same period one patient has arrived at the stage of dropsical effusion while another has a much enlarged heart which can still, however, overcome the obstacle to its work; and another is unconscious of disease, and there is but slight increase in the hypertrophy, and in yet another no change whatever has occurred, the inference can be drawn with a great amount of certainty, that as it has been in the past, so will it probably be in the future, disease that has advanced will continue to increase, that which has been quiescent will remain so still, and through the whole series the foundation of prognosis is time, and the changes it has wrought. The question as to sudden death is almost invariably asked by those who are personally aware of heart disease, and it is the duty and high privilege of the physician to be able to relieve the mind of his patient, that in all cases of valvular diseases, with one exception, that of aortic regurgitation, sudden death is a contingency which may practically be left out of consideration. Apart from this liability, aortic insufficiency is much more serious than constriction at the same orifice, because of the tendency to over-distension of the ventricle during diastole. In stenosis the arteries are scantily filled, and anemia of the brain is apt to develop on the slightest exertion. Those suffering from a single valvular lesion often do better so far as immediate relief is concerned, by having an incompetency of another valve added to that already existing. Thus in aortic regurgitation there is less liability, for the time being, to sudden death if there is a subsequent mitral incompetency developed. The regurgitation through the mitral orifice during the ventricular systole lessens the amount of blood passing into the aorta and therefore the force which distends the ventricle during the succeeding diastole.

In an analysis of 400 cases in which on post-mortem examination it was found the heart had undergone marked changes, in 151 there was definite valvular stenosis, without sudden death in a single instance, in the sense of the sufferer being overtaken by death while in apparent health; of aortic insufficiency there were 38 cases, 3 were brought to the hospital dead, a fourth died suddenly in the hospital; in 6 more the final symptoms came on abruptly and were rapidly fatal. Of 53 cases of mitral stenosis, only 1 was brought in dead. Those of mitral insufficiency or regurgitation were 49 in number; of these 2 may be said to have died suddenly, but both had serious symptoms and were under treatment in the hospital at the time, and in both the pericardium was adherent; in 3 more a sudden attack of dyspnea set in and proved rapidly fatal. Under the head of hypertrophy and dilatation only 2 sudden deaths were directly attributable to the state of the heart. When we come to fatty degeneration, the story is very different. In 9 out of 38 cases the termination was sudden; it is in effect to fatty degeneration that heart disease owes much of its terror of sudden death. It is the accumulation of years of insidious changes whose manifestations are in the beginning quite imperceptible, but they have a tendency to grow more intense from the persistence of the original cause. The nutrition of the heart in these cases is markedly defective, and, unfortunately, in the earlier stages not recognizable, though a pulse of low tension and irregular with an occasional attack of dyspnea should put us on our guard, particularly in those who have passed the meridian of life. Of course, it is, I trust, fully understood that I do not refer to the acute manifestations of fatty degeneration, which may be found in idiopathic anemia, or in the course of phosphorous poisoning, but to cardiac degeneration of a fatty character, as we generally understand the disease. Personally, I do not believe this terrible disease exists at all in the proportion to which it attains in the mind of the physician, and I say the mind of the physician advisedly, for there it has its existence oftentimes, rather than in the heart of the patient. It is not an easy matter to make an accurate diagnosis of fatty degeneration of the cardiac muscular tissue, though it would seem as if some physicians have an intuitive perception of the changes taking place after a superficial examination. It should also be remembered that in autopsies where frequently fatty degeneration is supposed to exist, it is really rapid decomposition which produces an appearance of the pathological changes of that malady in the muscular fibers of the heart. I have dwelt on this affection at some length, because I have heard from others of its frequency. Of 255 cases of heart disease of all kinds which we have treated in our clinics in St. Joseph's Hospital, at the West Side German Dispensary of the New York School of Clinical Medicine, and in the Outdoor Department of St. Vincent's Hospital, as well as in private practice, during the past two years and a half, I find but 2 cases of fatty degeneration recorded, 1 occurring in a male, 64 years of age, the other in a man of 82; the symptoms at least would make a clinical diagnosis of the disease possible.

Of the aortic lesions there were aortic insufficiency 18, mitral insufficiency 95, aortic insufficiency and stenosis 45, mitral insufficiency and stenosis 74, 1 case of lesion of pulmonary valve, 6 of pure aortic stenosis and 14 of pure mitral constriction. Lesions of the right side of the heart are relatively rare, and they can scarcely be considered independently of affections of the heart or of the lungs.

It may be interesting in this connection to mention that mitral stenosis is much more frequently found in women than in men. Out of 53 cases, 38 were females, the balance in males. On the other hand, aortic insufficiency is more frequently met with in men. Out of 36 cases, 30 were in males, 6 females. I am also led to believe from my researches into the territory of cardiac diseases, as well as from personal observation, that pure mitral stenosis is a comparatively rare affection, and the same statement, with perhaps somewhat milder limitations, may be applied to pure aortic stenosis. In an analysis of 33 cases with pure mitral disease, the average age was 29, while the average age of 14 patients in whom the aortic valves were affected either with or without mitral disease was 41. This is a further illustration of the well-known fact that mitral lesions occur early in life as a result of endocarditis, while aortic lesions are found later, frequently the result of atheroma. In 27 out of 50 cases, there was a clear rheumatic history. In 5 cases the rheumatism was found associated with scarlet fever. In 23 cases there was no history, but this does not invalidate the supposition that rheumatism was the original factor, as we are apt to forget the diseases of infancy and early childhood.

Different affections of the valves have, inherently and mechanically, different degrees of tendency to the production of structural alteration. The time of life at which the lesion of the valve takes place is of great significance, a given valvular affection established in youth is apt to be survived with great hypertrophy, though it must not be overlooked that valvular disease appears to be more serious in early childhood than a few years later. The heart can not keep pace with the active growth of this period of life, and answer to the demands of hypertrophy, in whose development time is an important factor, as well as the mode of living.

The period after the occurrence of the valvular change, at which active exercise was undertaken, will have great influence on the condition of the cardiac walls and cavities.

In aortic obstruction there must be either increase in the propulsive power of the heart or diminished rate of circulation. The increased power is gained by hypertrophy, and I regard a direct aortic murmur accompanied by hypertrophy to be more serious than when the combination is not found, because in the former case the mechanical difficulty is sufficiently great to call for cardiac development. On the other hand, in aortic insufficiency a certain amount of blood returns into the ventricle at each systole, an increase in the force of the contracting power would not overcome this, but an increase in the capacity of the left ventricle brings about the desired result and thus helps to compensate for the regurgitation. Dilatation, which under all other conditions is injurious, is thus actually a compensatory change in aortic incompetency; it is totally different from the dilatation which is now and then met with as the result of structural weakness or degeneracy of the cardiac walls. There is also a demand for the exercise of force in the additional quantity of blood to be pumped at each systole, so in addition to the dilatation we must have hypertrophy. The case is different with mitral regurgitation. Here we do not find the same degree of dilatation or hypertrophy in the left ventricle, while in mitral stenosis there may be actual contraction. It is in aortic incompetency that the extremes of dilatation and hypertrophy of the left ventricle are met with, and they are apt to be the measure of the regurgitation in the absence of symptoms, such as breathlessness on slight exertion, faltering action of the heart, with tendency to faintness and vertigo.

In advanced life mitral regurgitation is common without actual lesions of the valves, and may come on suddenly after illness or overstrain, or approach insidiously. Mitral stenosis is the valvular affection which independently of inflammation or ulceration most frequently gives rise to arterial embolism.

Mitral stenosis is the gravest of all cardiac lesions, and especially if it develops after middle life. So far as the physiognomy of mitral stenosis is concerned, it is very deceptive, the subject of this affection frequently presenting every appearance of perfect health. Let me close with this interesting aspect of heart disease by stating, that the obliteration of the second sound is an element of pronounced gravity.

With aortic regurgitation is frequently associated angina pectoris, that terrible disease which Balfour has described, "as if a mailed hand grasped the chest in the cardiac region and squirted through its fingers flashes of excruciating agony," a disease in which the cumulative tortures of a thousand deaths are concentrated in one. The patient liable to such seizures is constantly walking on the edge of a precipice, not knowing the moment when he will fall into the depths below. It can not be said to be a disease-entity, as it is associated with so many conditions which give rise to abnormal distension of the cavities and consequent stretching of the nerve fibrils beneath the endocardium. The prognosis of true angina is extremely uncertain, and the wise physician will ever be chary of expressing a definite opinion.

CONCLUSIONS.

1. When a heart murmur is discovered, do not give a gloomy prognosis on that simple fact alone; consider the condition of the cardiac walls, the probable length of time the lesion has existed, the presence of dilatation or hypertrophy, or both combined. The occupation and temperament of the patient are very essential factors in the prognosis. Each individual is a law unto himself, and though certain general principles may be established as a basis on which to build a working prognosis, remember we have no real means of recognizing the strength of the individual heart except its power of resistance against the poisonous effects of alcohol and tobacco or the inroads of the acute or chronic diseases, or the stress of laborious occupations, or the debilitating influence of prolonged exposure. The diagnosis should be complete, the prognosis tentative. Or, as a distinguished English colleague has said: "Give your prognosis on the best suppositions, treat your patient on the worst." (Allbutt.)

2. Remember that murmurs do not invariably mean endocarditis, and a prognosis based simply on the presence of a murmur would be rank injustice to the patient, and demonstrate incapacity on the part of the physician. As a skilled observer has well stated: "With an apex-beat in the normal situation, and regular in rhythm, the auscultatory phenomena may be practically disregarded."

3. To those of us who are interested in life-insurance work, this is of great importance. We wish to be just to the applicant, and at the same time, do our duty toward the company. The fact that a man has a murmur at the apex, of which he is entirely unconscious, whose heart is doing its work thoroughly despite the existence of the lesion, whose occupation is not of an adversely laborious character, who has passed that period of life when acute rheumatic infection is liable to stimulate into fresh and renewed activity the latent inflammatory products of an ancient endocarditis should be factors to guide our judgment as to the probabilities of the future and prompt us in recommending for him a policy commensurate with the degree of cardiac inefficiency.

It should not be forgotten in this connection that a presystolic murmur does not always indicate the most serious of all lesions, viz., a mitral stenosis, nor has a so-called musical apex-murmur any particular significance in prognosis, indicating, as it does, the passage of a stream of blood through a small aperture in the segment of a valve.

4. From the standpoint of longevity, aortic stenosis is a favorable lesion, and the writer must differ from some authors who state that it appears for the most part after middle life. It is found at that period when a man should be at the highest point of physical capability, between 30 and 50. It is true that it is frequently present as part of a general decay, and then develops in consequence of atheromatous changes taking place throughout the system, but it is more frequently present than has hitherto been suspected without such pathological manifestations being present.

5. Do not inform a young man between 18 and 25 that he has heart disease because you discover some hypertrophy with no complications, the result in most instances of active exercise. The writer knows of one individual whose heart is "athletic," a splendid specimen of manhood whose existence was embittered by the thought of heart disease communicated by a careless and injudicious physician. In this condition, it is, of course, understood that a careful consideration will be given to a large number of causes, independently of diseases within the heart itself, which may produce hypertrophy, for example, that typical enlargement of the heart co-existing with an interstitial nephritis.

Never hesitate to ask a patient to return for further examination, as the condition then may be entirely different from the first examination. There are more snap "diagnoses" made in the realm of cardiac affections than in the study of diseases in any other portion of the body.

DISCUSSION ON PAPERS OF DRS. SOLIS-COHEN. BISHOP AND MORRISSEY.

DR. FRANK BILLINGS, Chicago—These papers cover so much ground and there are so many who would like to discuss them that I will limit my remarks to a few subjects only. I desire to say something concerning acute endocarditis. This is a disease which is usually recognized, especially when classic. When acute in manifestation it presents many of the phenomena of the typhoid state and is accompanied by many definite anatomical lesions. But it is not always so; acute endocarditis, or subacute endocarditis, especially if of the vegetative or ulcerative kind, is not so easily recognized. All of you who have followed such cases through the hospital and to the autopsy table have recognized that fact, I believe. It has only been recently in the wards of the County Hospital that I have seen two cases of this kind. A Russian, 32 years of age, came into the ward suffering from anemia, with the consequent weakness, with an irregular type of fever. The anemia was apparently secondary and was very marked. The red cells fell as low as 2,000,000 to the cubic millimeter, and the hemoglobin to 30 per cent. Associated with this was a murmur over the heart at its base; this murmur was characteristic of aortic regurgitation. Under rest treatment, quiet in bed, the patient improved and was finally allowed to get up. In two weeks a relapse occurred; an examination showed, in addition to the murmur referred to, an aggravation of the anemia and there were microscopic amounts of blood in the urine. The spleen was palpable. The blood-pressure was low. Then for the first time I suspected the possibility of an acute endocarditis. The man died suddenly from hemiplegia. The postmortem revealed a subdural hemorrhage and marked endocarditis involving the aoritic valve. Another thing which we suspect when there is an ulcerative endocarditis, with a palpable and perhaps tender spleen, with blood in the urine, is multiple infarcts, but there was none in this instance. The hematuria and palpable spleen were due to a passive hyperemia. Recently there died in the hospital a patient who was in my care for a long time, but, who was under the care of Dr. Preble at the time of death. This patient lived for months with an ulcerative endocarditis, and emboli were constantly being sown from the heart. The patient was always clear neutrally. The fever was not high and usually irregular in type. These two cases illustrate the fact that ulcerative endocarditis is not always classical in its symptomatology, and that it is sometimes difficult to recognize. In the Presbyterian Hospital recently was an Italian, unable to speak English, who came in in a typhoid state. The temperature ran on the second day to 105, but it suddenly fell to normal. The blood was examined for typhoid fever, for malaria, etc., but ordinary search did not reveal the source of the disease. The heart was weak and the blood-pressure was low. Associated with this was a murmur heard part of the time only over the heart. There was a marked accentuation of the second aortic sound. Because of the low blood-pressure, I made a probable diagnosis of an ulcerative endocarditis. The patient died, and the post-mortem revealed an endocarditis and incompetency of the aortic valves; and yet there was an accentuation of the second aortic sound. This patient was in the typhoid state, with a low blood-pressure and had, part of the time, a murmur over the heart. Ulcerative endocarditis is a disease difficult to recognize and the general symptoms or condition are quite as important as the local signs. Among the local signs is a marked anemia, which occurs in those cases due to a toxemia. Another important sign is the low blood-pressure.

The next subject that I should like to refer to is not valvular lesions but myocarditis. This occurs in all valvular lesions sooner or later, but I shall not discuss that which occurs in valvular lesions. It also occurs in many toxemias and in all infectious disorders. It may be due to severe typhoid fever, and to pneumonia, and is recognized because of the weakness and failure of the heart. Myocarditis may be due to chronic toxemias, which are, in turn, due to gouty conditions and auto-intoxication. These cases of myocarditis present conditions which do not make the diagnosis easy. There are often no local signs. Such patients present nervous phenomena; they are very irritable. The business man changes in his disposition; instead of being earnest he may be frivolous, or he may not be able to grasp important business situations as he once did; or, instead of his mental powers being disturbed, there may be loss of digestive power. The diagnosis may be made of gastric disorder dependent on a weak heart. These things all become aggravated in a short time and the patient complains more after eating, when he has some fullness about the epigastrium, or some dyspnea. The dyspnea later increases and occurs when he is talking business or when excited. The compression then becomes actual pain. The pulse changes in its character and, perhaps, may not be more rapid, but slower. Congestions occur easily and there is associated malnutrition. Finally, dilatation occurs and associated with this all the phenomena that go with heart disease. The practical point is that, in these cases, especially of myocarditis, they require early attention. Frequently we can remove the cause and restore much of the heart power.

Dr. DeLancey Rochester, Buffalo—The statement has been made by Dr. Billings, and I understood that Dr. Davis also made it, that acute ulcerative endocarditis was more frequently recognizable than not. I think it is most difficult to recognize. I think it is more frequently mistaken than any other form of infectious disease. I state this on authority and on personal experience. My personal experience has extended over fifteen years, and has occurred in three hospitals. During this time there were five cases of acute ulcerative endocarditis under different observers, that were not diagnosed until after death. The diagnoses in these patients were various. That the diagnosis may be made by careful study of each case is possible, and therefore these cases should be carefully investigated. There is one case that illustrates this fact; this patient was brought into the hospital, the General Hospital of Buffalo, on the surgical side for operation for an appendicitis. She was operated on and the appendix, although there was nothing diseased about it, was removed. The chief complaint was pain in the abdomen. There was a certain amount of fever which did not subside after the operation. She was removed to the medical side. The abdomen was distended and she still complained of pain in it. Careful manipulation and study of the case indicated a point of pain on the left side and in the upper zone, but toward the left chest; yet, nothing could be found beyond that but a distention of the bowels. This was relieved by the use of asafetida per rectum. The fever persisted. A careful study of the blood was made, typhoid fever having been suspected. There was no Widal reaction. There was a large amount of indican in the urine. Ehrlich's reaction was thought to be present, although there was some doubt about it. There was, however, on examination a marked leucocytosis. When we can find a very marked leucocytosis, of considerable degree, with no evidence of localized collections of pus, we should suspect the presence of ulcerative endocarditis. So far as an examination of the heart was concerned there was no murmur whatever and no embolism occurring in any part of the body. The patient died undiagnosed, and the autopsy showed an ulceration on the ventricular side of the mitral valve, which had penetrated through into the other ventricle.

I believe that changes in the myocardium are exceedingly serious and are frequently overlooked. In chronic myocarditis we should take into consideration the general condition of the patient more than the local condition, so far as the heart is concerned; this means the condition of the pulse, the general nutrition of the patient, the condition of the arteries particularly, and also the condition of the heart, of which we may have more or less dilatation, more or less enlargement, and weakness of the sounds. So far as the various valvular lesions are concerned, two are serious, i. e., aortic insufficiency and mitral stenosis; of these aortic insufficiency is the more serious. The diagnosis of this condition depends on the diastolic murmur. Whenever I hear a diastolic murmur I feel that the case is always serious. Of course, in mitral stenosis the murmur may be decidedly diastolic. Right here, in regard to mitral stenosis, I wish to state that a presystolic murmur is less serious prognostically than a rough diastolic murmur heard in the same place. But, the conditions on which the prognostic value in these valvular diseases depends are not so much the local conditions of the heart as the condition of the general circulation. The condition of the arteries particularly is of great prognostic value; the more pronounced the changes there the worse prognosis must we give. Dr. Morrissey spoke of murmurs that had existed for a number of years; in my opinion a murmur that has existed a number of years is an organic murmur due usually to change in the ability of the valve to close the orifice; either a decided change in the valve itself, or the myocardium. If it has existed for several years and then disappears it is a much more serious matter than if it continued to exist; it shows a more marked weakening of the muscle itself.

Dr. James B. Herrick, Chicago—The tendency to-day is to pay more attention to the muscle of the heart than to the valves, and I will place myself on the side of those who so practice. The time has passed also, when we make a diagnosis of lesions of the heart merely on murmurs that may exist. We have to take into consideration the secondary changes that follow each valvular lesion; the size of the heart; the alteration in the aortic and pulmonic tones; the condition of the pulse, both as to volume, tension and irregularity; the peripheral tone. All these things should be taken into consideration before determining as to the nature of the valvular lesion, whether it is organic or due to dilatation of the heart, or whether it is an accidental or functional murmur. More than that, we can not rest content with making a diagnosis of valvular lesion, but we must go further and ask what is the condition of the heart muscle. This is very important, because, as we have learned from the several papers read and the experiences related, such patients may live with apparently serious valvular lesions for years provided the muscle of the heart is capable of doing its work. This was impressed on me when I was called a few years ago to see a man, 67 years of age. As I was listening to his heart he said: "I know I have heart disease; Skoda told me so, but said with care I might live to be an old man." He had a valvular lesion which more than thirty-seven years before had been recognized by Skoda. In the clinic I recently saw and presented a case of aortic stenosis where the history dates back twenty-five years and only now is compensation beginning to fail. The principal question is how long may the muscle of the heart do its work, and what is the condition of the myocardium?

I certainly find it difficult in a case of acute rheumatism to speak positively of the condition of the myocardium. If I understood Dr. Rochester correctly, he stated that in cases of acute rheumatism he can diagnose an acute myocarditis by the endocardial murmur. It seems to me there is great difficulty in diagnosing acute myocarditis either in the course of an acute rheumatism or other acute infectious disease. Perhaps here we use different terms. What one would call myocarditis another would possibly call acute parenchymatous degeneration of the heart. There may justly be some difference of opinion as to what is the significance of the murmur in acute articular rheumatism, whether it is a hemic or an accidental murmur, the murmur of an acute endocarditis or of a relatively incompetent valve, or of a true myocarditis.

I wish to mention, in connection with the diagnosis of chronic myocarditis, the importance of recognizing the etiological factors. And here I emphasize one fact already dwelt on, i. e., the importance of heredity. If we go back into the history of many of these cases we shall find striking instances of this, shown especially in the effects of sclerosis of the blood-vessels, in the early deaths from angina, cerebral hemorrhage, renal disease, aneurysm, etc. The symptoms in these cases of chronic myocarditis may be most pronounced, but occasionally cases are met with where, without preceding symptoms, there is sudden death. I have seen a man of 60 years die in his first attack of angina where there had been nothing previously to indicate the existence of heart disease.

In regard to the treatment of myocarditis there are two points to which I wish to call attention. Of the greatest importance is rest. And secondly, when in myocarditis dilatation has occurred, when all the evidences of marked incompetency are present, when death seems to be imminent, the patient cyanotic, with edema of the lower extremities, etc., bleeding is of great value. This treatment, with rest, will frequently restore temporarily the integrity of the heart.

Dr. Bertram W. Sippy, Chicago—Dr. Rochester has made the point that a leucocytosis occurring in an obscure case in which malignant endocarditis was suspected, was of great value in the diagnosis of that condition. A few years ago, it was supposed that leucocytosis occurred in all septic conditions; in the absence of an increased number of leucocytes, septicemia was not to be diagnosed. The more the condition leucocytosis is studied, the less constant appears to be its relation to the various infective processes. It is fairly well established that with the exception of typhoid fever, malaria, miliary tuberculosis and measles, leucocytosis is likely to be present in all acute infections. Sepsis is usually accompanied by a well-marked leucocytosis. Experience has shown, however, that even the severest sepsis may exist without an increase in the number of leucocytes. It has long been known that puerperal fever may be unaccompanied by leucocytosis. The same seems to be especially true of malignant endocarditis. Neusser, of Vienna, was probably the first to note that malignant endocarditis was prone to run its course without leucocytosis. Previous to 1895, he had observed six cases in which leucocytosis was absent. At that time, he was inclined to look upon the absence of leucocytosis as one of the characteristics of the disease. Since then I have observed four cases in which the leucocytes were not increased. A rapid reduction in the number of red blood-corpuscles, the presence of normoblasts and marked poikilocytosis are commonly found in malignant endocarditis.

Dr. Judson Daland, Philadelphia—During the winter I had the opportunity of studying a case of ulcerative endocarditis, which was also seen by Dr. Da Costa, who in this particular case, attached much importance to the presence of leucocytosis, the leucocytes numbering 40,000 to the cubic millimeter. It seems to me, however, that this sign will probably not prove to be of very great value excepting in ulcerative endocarditis unassociated with fever, as most cases show intermittent fever. The leucocytosis present could be ascribed to this cause alone, irrespective of what may have produced it. I was extremely interested in the case reported by Dr. Davis for the reason that he believed the source of infection to be through the intestinal tract. About one year ago I saw an instance where the disease had existed for a period of eight months; I saw the case about one month before death. The man was known to have been without the disease for years. Severe intestinal symptoms suddenly developed, after which the characteristic intermittent fever of ulcerative endocarditis appeared. It continued until death occurred eight months afterward. In that case we employed the antistreptococcic serum, first injecting 2.5 c.c., which was followed by a slight reduction of fever. A second injection of 5 c.c. was followed by distinct evidence of weakness. After this 10 c.c. were used, which was followed by such marked evidences of collapse that it looked as though the man would die. The serum seems to be of value in certain cases of ulcerative endocarditis, but it should not be administered in those cases which have advanced so far that extreme weakness has developed, as the serum is itself able to bring about fatal collapse even in as small a quantity as 10 c.c. I was much impressed with the references made in regard to the prognosis in heart disease. I recall a case of aneurysm of the heart occurring in a man apparently in perfect health until twenty hours before his death. This man had no symptoms of cardiac disease and was insured by an insurance company as a good risk. The autopsy showed extensive fibroid changes occupying the interventricular septal region, covering an area about the size of a silver half dollar. Further examination showed extensive atheroma of the coronary arteries. The cause of death was a thrombus in the right coronary artery. The case reported by Dr. Billings was symptomatically a counterpart of one that occurred in the University Hospital, where there was a marked anemia, there being less than 2,000,000 red cells to the cubic millimeter and a systolic murmur over the apex; the recurring pyrexia brought up the possibility of an ulcerative endocarditis. The autopsy, however, showed no ulcerative endocarditis, but pernicious anemia.

Dr. H. M. Fussel, Philadelphia—Other signs than cardiac murmurs are important in making a diagnosis of heart lesions. There is no question that students, and many men as soon as they leave college, believe that there can be no heart disease unless there are murmurs present; they also believe that unless there are heart murmurs present the case does not admit of any treatment. Of course, this is an error. The most common error made is that regarding the systolic murmurs at the base of the heart; it is almost invariably the case that when a student detects a systolic murmur at the base of the heart, he considers the individual suffering from an aortic stenosis. Of course, this is far from the fact. It is well known that serious heart lesions may exist without the presence of any murmur. A case occurred in my practice some years ago in which a man suffered from cardiac disease without symptoms of loss of compensation; during three or four years he was examined frequently and nothing was found in the way of a murmur. At the time of his death there was a dilatation so great that five fingers were admitted in the orifice; and yet there was no murmur.

The points in the treatment should be based on the condition of the pulse, whether regular, feeble, rapid or slow. Then one should consider the size of the heart, and I am sure many neglect to outline this organ. Any heart that extends from the sternum on the right to a point beyond the nipple on the left is certainly an abnormal size of the heart. The character of the first sound is very important. In cases of dilatation the first sound loses its muscular element and is very much like the second sound. The absence of the apex-beat frequently means loss of power in the heart muscle. Any accentuation of the first sound, a curious sharp short sound, is extremely indicative of stenosis of the mitral orifice. Regarding the point of Dr. Cohen about the so-called dilatation of the veins about the costal margins, I have often been asked by students what it means, and I always answer I do not know. I do not believe that it is a valuable sign in cardiac disease.

Dr. Robert H. Babcock, Chicago—I desire to add a word concerning the importance of the myocardial changes in heart disease. The profession has paid too much attention to the mere presence of murmurs as indicative of endocardial lesions, and shows a tendency to forget the condition of the myocardium. The physician is apt also to forget the condition of the myocardium in rheumatism. The following figures are certainly very instructive in this regard. Dr. Pointon examined 154 cases of deaths occurring in children from rheumatic heart disease, and he found, among these 34 instances of myocardial changes; in 13 cases the heart muscle was soft and pale; in 4 cases there was fatty degeneration; in 8 instances the myocardium was described as fibroid in character. Furthermore, in

92 of these cases there was marked general cardiac dilatation. These figures are exceedingly important as bearing on the prognosis of rheumatic heart disease in children.

There is nothing more difficult in the line of heart disease than to make a prognosis. I often say it is like betting on a horse-race; yet by nothing so much as by his ability to make a correct prognosis is a physician's experience shown. Leaving out of consideration all extrinsic conditions and limiting ourselves to a consideration of the changes in the heart, whether in valvular disease or not, I think we must all admit that the condition of the myocardium influences the course of any given cardiac disease. Take aortic regurgitation; there is a wide difference in aortic insufficiency of atheromatous origin from that of endocardial origin, or an aortic regurgitation developing as a result of endocarditis at a period of life when myocardial degeneration is already present as shown by the condition of the peripheral arteries. It is in these cases particularly that the career is short and death is sudden. So it is with atheromatous mitral lesions. We know when the mitral disease is the result of a sclerotic process that these are the cases in which the prognosis is grave and there is little hope of re-establishing compensation when once it is broken. This is contrary to the experience found in mitral disease in the young when due to an endocarditis; in such compensation may be frequently broken and restored, in part at least. It is not so when the myocardium is diseased.

DR. JOHN A. WITHERSPOON, Nashville, Tenn.—It is extremely rare in my experience that an aortic stenosis kills by degeneration of the heart muscle itself; it is due to a degeneration in the blood-vessel walls, usually those in the brain, rupture causing death. Along with this we may have valve lesions with murmurs, but with the heart muscle little affected; nor does the condition of the valves of the heart affect the prognosis so long as the heart muscle is capable of performing its function. Regarding the treatment of organic heart lesions, unless compensation is broken, it is malpractice to treat that heart, with medicines, like digitalis. Hygienic care and strychnin are useful.

DR. S. SOLIS-COHEN, Philadelphia—Dr. Fussell doubts my explanation of the costal fringe. I distinctly said and now repeat that this sign is not infallible. I have seen it in many cases in which I could find no heart lesion. Nevertheless it is one of those signs leading one to suspect that there may be some undemonstrable disease of the myocardium. If it occur in a patient who has a persistent enlargement of the liver, or who shows a tendency to recurrent enlargement of the liver, we are certainly justified in considering the patient at least a cardiac suspect. In regard to murmurs, valvular murmurs are not the only organic ones. We may have a myocardial organic murmur, or a myocardial functional murmur. Disease of the papillary muscle, as well as disease of the muscular fibers of the ventricle or the auricle, may mechanically interfere with the closure of the valves and give rise to the phenomena of insufficiencies.

DR. LOUIS FAUGERES BISHOP, New York City—In regard to the question of loud murmurs, I wish to allude to a case of my own in which an autopsy was performed a short time ago. A patient was brought into the hospital and promptly died. There was a loud murmur present but the valves were normal; there was simply dilatation. Dr. William H. Thompson, of New York, reported a case in which there was an extraordinary murmur over the heart due to dilatation occurring in a muscular man from sudden exertion. It seems to be true that loud murmurs do occur from dilatations. It is not always possible to make a diagnosis before death in malignant endocarditis. I would refer to a case seen last winter in which diagnosis was obscure but where I believe there was septic disease in which the kidneys had participated. The conditions were very obscure. That patient had a murmur, but the symptoms were never prominent. At the autopsy I found the valves almost destroyed. This patient had been bed-ridden, kept perfectly quiet, for which reason the murmurs were not marked.

SURGICAL ASEPSIS OF THE URETHRA AND BLADDER.

WITH DEMONSTRATION OF A DEVICE FOR THE PURPOSE.*

FERD C. VALENTINE, M.D.
Professor of Genito-Urinary Diseases, New York School of Clinical Medicine; Genito-Urinary Surgeon, West Side German Dispensary; Genito-Urinary Consultant to the Metropolitan Hospital and Dispensary; to the United Hebrew Charities, etc.
NEW YORK CITY.

In view of the impossibility of scrubbing, soap-poulticing and rescrubbing the urinary tract; of the infeasibility of washing it with ether, alcohol, or antiseptics sufficiently strong to kill bacteria, it must be confessed that efforts to obtain surgical asepsis of this region remain still within the realm of remote hope. The problem, therefore, is how we may attain, as near as possible, an approach to asepsis of the field of operation. Until about seven years ago, surgeons did their best to this end with urinary diluents, with the administration of drugs by the mouth, in the hope that the antiseptics therein contained would be carried through the bladder and urethra, or that in the changes the drugs would undergo in the organism, urinary antiseptics might be evolved; and by washings of the urethra and bladder with mild antiseptics by means of capacious syringes. These methods have their evident shortcomings.

Urinary diluents and drugs per os, even if they could fully perform all that is wished of them, would no more than act intermittently, i. e., only at the moments of urination. But as they can not, except during instants, unfold the urethra, they can not at the very best exercise more than a superficial and evanescent local effect. I would not, however, proclaim them useless; on the contrary, they are valuable adjuvants to approaching asepsis, so necessary a concomitant to instrumental ingression.

The topical efforts made to cleanse the urethra by means of even large syringes, are necessarily limited by the mechanical difficulties that beset such work. The irregularities of even the normal urethra place its expansions behind normal or abnormal coarctations beyond the effective reach of flushings which can not be otherwise than of irregular force when administered by a piston syringe. Besides, the inevitable intermittence in these flushings materially curtails their effectiveness. Manifestly, then, the local endeavors required a method whereby these and other self-evident defects could be overcome.

As far as I can learn from a most thorough search in literature, it was my good fortune to be the first to propose, seven years ago, that all invasions of the urethra and bladder should be preceded and, whenever practicable, followed, by copious irrigations, at least of the urethra. It would be an insult to surgical intelligence if I claimed better asepsis for my instruments and hands than others attain, and it would be beyond the province of this effort to discuss the etiologic factors of urethral fever. The experience of the past seven years, however, during which I have never omitted irrigations after instrumentations, has fully rewarded me and those who follow the method I proposed. The conjoined experiences are not small in number and their outcome is that there has not been a single case of urethral fever to report. Among these were patients who before had been treated by men whose scientific attainments and skill I unhesitatingly envy. Not a few of these patients warned me that even an exploration of the anterior urethra, most delicately conducted by the finest possible instruments, was invariably followed by fever. I irrigated their urethras before and after instrumentation, and not the slightest elevation of temperature resulted.

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These irrigations hitherto were performed by means of the apparatus I devised for the purpose and which several excellent authors have complicated since then. I can not but applaud the compliment so bestowed. If one or another forgot that I originated the device, I am sure the memory of my priority slipped away in the enthusiasm for good surgical work.

But the urethral and intravesical irrigator had its limitations. Although much smaller and far easier of manipulation than the irrigators employed before it was devised, its use was necessarily confined to cases treated in the office. In this regard I have no regret concerning its efficacy. But time and experience have shown the need of another, much smaller, irrigator, that would occupy but a limited space in the instrument bag. Work, since June, 1899, on these requirements, together with those of simple construction, facile sterilization and easy manipulation, resulted in the auto-irrigator. Its essential features are a modified douche-bag, made in one piece with a tube 4 feet long, terminating in a shield and nozzle, the special finish of whose tip can not injure the most exquisitely inflamed meatus.

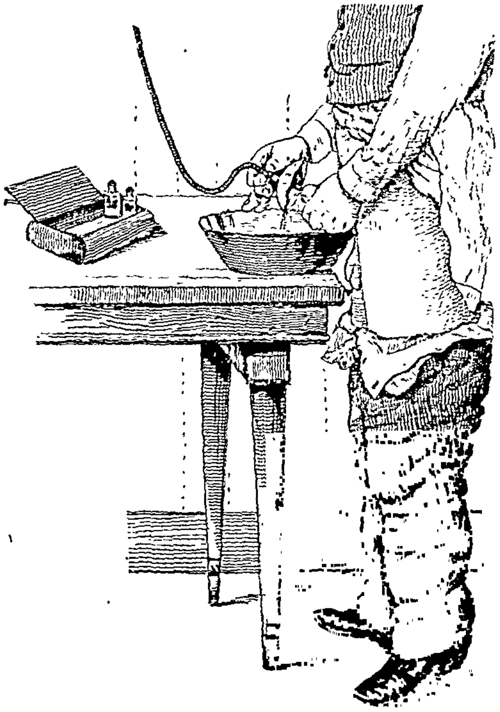

Fig. 1.—Irrigation in the standing posture.

The device throughout is so simple that the technique of its employment can not merit even a moment's description. As it has, however, other uses, and very important ones, I shall take the privilege of adding them to this paper when presenting it for publication. I may say now, though, that besides preparation of the urethra for instrumentation, this device proves of value in the treatment of such patients with gonorrhea as can not, for any reason, visit the physician as often as is necessary for systematic irrigations. It then serves as a substitute for such office-visits as can not be made. But I insist on being correctly understood by those who do not know me, that *this device is by no means intended to transfer to the patient the treatment of so dangerous a disease as gonorrhea.*

Another use in which the auto-irrigator proves convenient and effective is in those washings of the bladder and urethra which the physician may prescribe for patients who are obliged to catheterize themselves. While it would in every sense be better for the patient if this service were rendered by professional hands, it manifestly is impossible that prostatics be visited at least four times daily throughout catheter-life. These can be easily instructed to use the auto-irrigator, thus preventing the septic crimes that such patients continually commit upon themselves.[1]

To sum up the salient conclusions on the subject, I submit: 1. Perfect asepsis of the urethra can not be obtained by our present methods. 2. Urinary diluents and antiseptics by the mouth are limited in their action. 3. Washings with piston syringes, however large, must necessarily fall short of their purpose. 4. Asepsis of instruments and hands does not suffice to prevent urethral fever. 5. Urethral fever does not occur when instrumentation is preceded and followed by irrigations. 6. The irrigator I devised seven years ago and materially simplified since, effectively does the work required in the office. 7. The auto-irrigator, first exhibited before the Genito-Urinary Section of the New York Academy of Medicine at its meeting of March, 1900, and more fully demonstrated here to-day, enables the surgeon to perform urethral and intravesical irrigations anywhere. 8. The auto-irrigator is a useful adjuvant in the treatment of such gonorrheics as can not visit the physician with sufficient frequency. 9. The auto-irrigator offers the simplest method of preventing sepsis in those obliged to catheterize themselves.

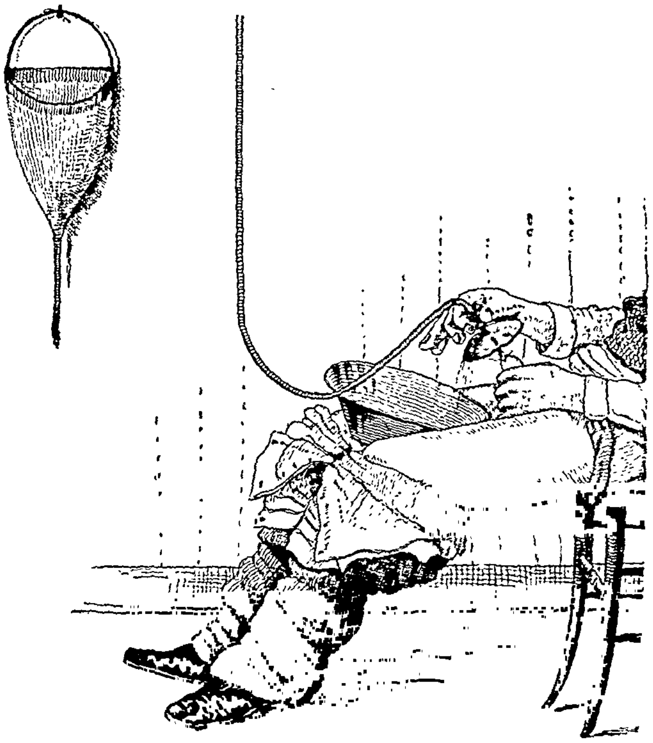

Fig. 2.—Irrigation in the sitting posture.

The foregoing brief synopsis of the purely surgical considerations of the use of auto-irrigations, suffices to describe its purposes before the Section. For the convenience of general practitioners, I beg to submit more

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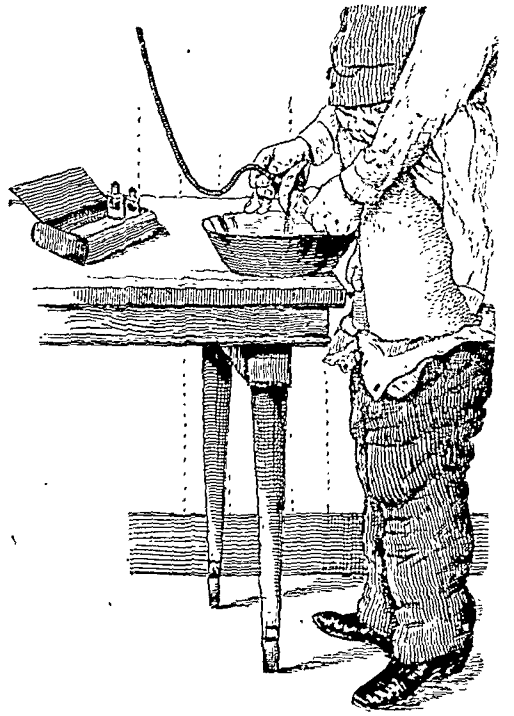

Fig. 1.—Irrigation in the standing posture.

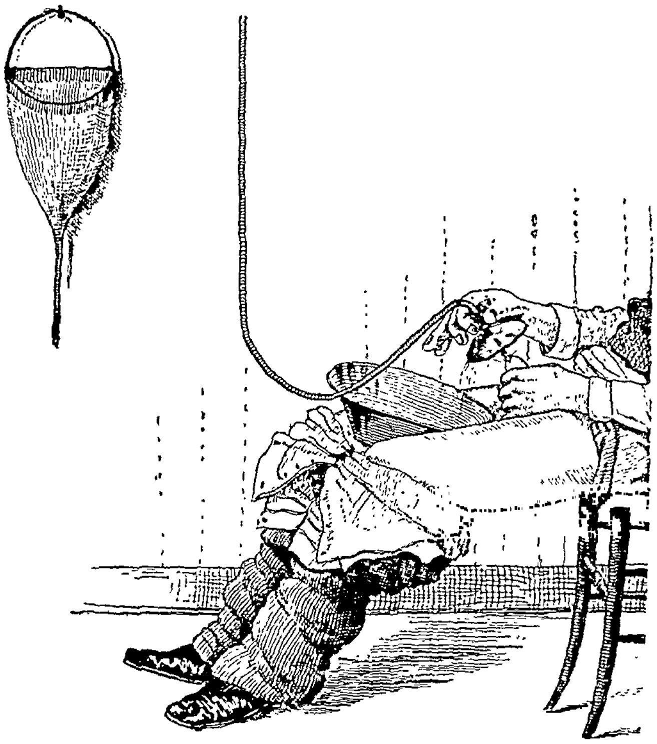

Fig. 2.—Irrigation in the sitting posture.

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The foregoing brief synopsis of the purely surgical considerations of the use of auto-irrigations, suffices to describe its purposes before the Section. For the convenience of general practitioners, I beg to submit more detailed discussion of the subject, especially calculated for those colleagues who have had no special training in the cases in which it is applicable.

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Experience has shown that most cases of gonorrhea require irrigations twice daily for the first four days, then once daily for two or three days, and after that twice daily for three days. Those who obtain the most brilliant results owe them to the care and precision of their work. However enthusiastic they may be in consequence of such success, all must acknowledge that the necessarily frequent treatments are occasionally infeasible. Among the elements responsible for this are:

1. *The Patient's Occupation.*—Some men are prevented by their work from going to the physician's office twice daily, and some, because of their business, can not visit a physician even daily.

2. *The Patient's Means.*—Many men are unfortunately so situated financially that they can not pay for professional services twice daily, but having salaried appointments are not entitled to gratuitous services. Moreover, the hours at dispensaries are likely to be such that if men attended them they would lose their positions.

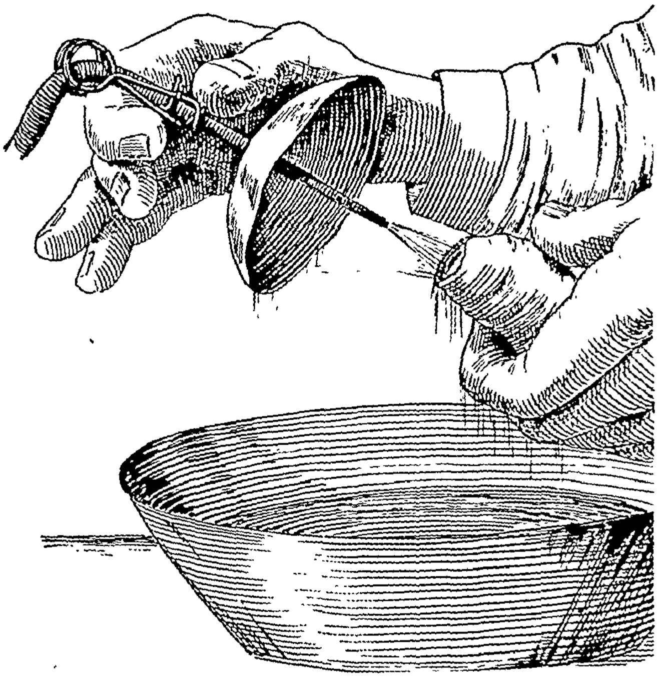
Fig. 3.—Preliminary washing.

3. *The Physician's Work.*—Busy general practitioners are exposed to being called from their offices at any time and thus are prevented from keeping appointments with their gonorrheal patients. If general practitioners referred such cases, which they are perfectly competent to treat, to a colleague, even if he is a genito-urinary specialist, their reputation would suffer, unjustly certainly, but none the less truly. Moreover, if for any reason a gonorrhea is not treated at the proper intervals, the purposes of irrigation are entirely thwarted. In such cases recourse was until recently had to the little piston syringe, with all its limitations. Some practitioners, I among them, endeavored to overcome the difficulty by ordering large six or eight ounce syringes. Owing to the difficulty of their management and their inadequacy these proved disappointing.

Much of the preceding can be applied to those men whose enlarged prostate obliges them to evacuate the bladder with a catheter. The cystitis that obtains in a majority of these cases requires bladder-washing after catheterism, before the catheter is removed. It is true that several two-way stop-cocks have been devised for the purpose, but they are somewhat complicated and their asepsis is by no means assurable.

To distinguish this little instrument from the apparatus known to the profession as the "Valentine irrigator," it is called the auto-irrigator. Its small dimensions and light weight make it unobjectionable to patients, who naturally have no desire to obtrude upon others the need of using it. Moreover, these characteristics make it an easy occupant of the instrument-bag, whenever urethral or intravesical irrigations must be performed by the physician at the patient's home.

The receptacle for the irrigating fluid has a capacity of 1500 c.c.—about three pints. Its wide top makes filling it easy, without any danger of soiling the floor with a solution that would stain, as for instance potassium permanganate. The back of the receptacle is flat. so that its contents are not likely to spill when the instrument is suspended from a wall. The outflow and shut-off are modifications of those described elsewhere.

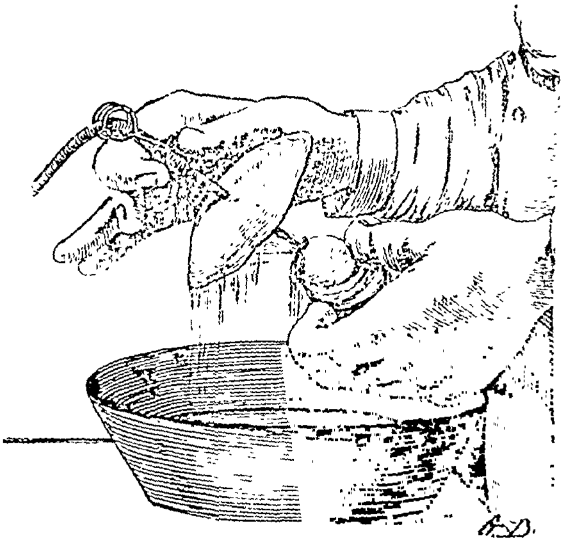
Fig. 4.—Irrigating the meatus.

In this connection, I again call attention to the peculiar finish of the nozzle, which prevents any injury to the most sensitive meatus in anterior irrigations. Moreover, its conical shape fits any catheter, and consequently renders bladder-washings by this means very easy when required for patients obliged to catheterize themselves.

With a view of facilitating my colleagues' work, I have formulated a series of directions, which experience has shown to be needed. They are necessarily exceedingly simple, with only so much explanation added as will enable laymen to intelligently follow the physician's orders. Naturally they will often have to be modified to meet the requirements of individual cases.

DIRECTIONS TO PATIENTS FOR THE USE OF THE *AUTO-IRRIGATOR IN GONORRHEA.*

These directions may appear complicated and perhaps difficult of execution. They are intended as suggestions for the physician only, and he will show the patient how to follow them easily and painlessly. Their complete and correct execution, even by an awkward man, requires less than five minutes. It seems desirable to be very explicit, so that a physician with little experience in the treatment of genito-urinary diseases may have no more difficulty in imparting the necessary instruction than one who does not need these directions. They naturally can apply only to the generality of cases; special circumstances may arise that will require essential modifications. Primarily, the patient should be impressed with the fact that his interest lies in strict compliance with his physician's orders, so that recovery be expedited and the dangerous complications and sequelæ of gonorrhea avoided. Quite frequently patients will relate that they or their friends successfully used this, that, or the other preparation in gonorrhea. It should be made clear to them that two instances of the disease may appear almost identical and yet require far different drugs in their successful treatment. It will be well to write the directions for irrigations for each case in addition to drilling the patient in their performance. Those that apply generally are noted below; the magisterial tone in which they are written is adopted for brevity.

1. Direct the patient to screw a cuphook into a door or window-casing, at the point he can comfortably reach without painfully stretching his arm. If irrigations are to be performed in the standing posture; the above point is sought while the patient stands. If irrigations are to be performed while the patient sits, he should measure the height of the hook in the corresponding way, i. e., seated on the chair intended for use during irrigation.

2. Have him fill the irrigator with boiling water and hang it on the cup-hook.

3. Show him how to fasten the catch of the shut-off and place the nozzle and shield so that the hot water which will then flow out, escapes into a basin or any other convenient vessel.

4. While the hot water is escaping, prepare the solution that is to be employed (see below, "formulary").

5. Order the patient to as completely empty the bladder as he can, and explain that the purpose hereof is to prevent immediately washing away that part of the solution which is left in the urinary channel after irrigation.

6. Direct the patient to drop his trousers and drawers to below his knees, and to fold his shirt and undershirt upward, so that they will not interfere with the work or become soiled by the fluid, if he should be careless in its use. A further good precaution is to tie one towel about his waist and another around each leg, to positively prevent his body being soiled.

This can be simplified by the use of a piece of rubber sheeting twenty by thirty inches, with a tape tied to each upper corner and a hole two inches in diameter cut through the part over the penis. The penis can then be drawn through this hole, and the irrigation so performed.

7. Release the catch on the clamp, which allows the latter to close, and so shut off the rubber tube.

8. The solution to be used is then poured into the irrigator.

9. Have the patient stand or sit—as may be preferable—before the irrigator or toward its side. If the patient is to stand, have him place a tin or enameled basin on a table at such a height that his penis will comfortably rest on its margin. If irrigation is to be performed in the sitting posture, have the patient hold the basin with his thighs, at such an angle that the penis lies on its margin. If it is preferred to have the patient use the apron-shaped rubber sheeting described above (see 6), have him fold the ends of the apron so as to conduct the flow from the penis into a pot, slop-bucket or water-closet with the seat raised.

It will be well to impress on the patient that he must never use a stationary wash-basin or bath-tub for this purpose, as it may expose others to dangers to health and life, which can be prevented by a few simple precautions. Any patient who is unwilling to guard others from this unfortunate disease could be placed under a species of quarantine with more reason than sufferers from yellow fever are now subjected to restraint in this climate. It is true that many men have survived many attacks of gonorrhea, but sad experience has shown that many have died from joint, brain, heart and abdominal diseases due to this affection. Therefore, a being who directly or indirectly communicates it to another is worse than a murderer.

10. Instruct the patient to take the penis in his left hand.

11. Place the shut-off in his right hand, and lightly press its bars with the thumb and index finger. This will let a slight stream of the fluid escape.

12. Order him to direct the stream against the outer surface of his foreskin, and to turn the penis about until all the outer part of the foreskin is thoroughly cleansed.[3] When this is done, have him direct a stronger stream to the opening of the foreskin, until its folds are clean. Then slowly draw back the foreskin and, as each part of its mucous (red) portion comes into view, have him wash it in the same manner. When the foreskin is entirely turned back, have him wash the glans, the coronary sulcus—depression around the head of the penis—and then the sulci—little depressions—at each side of the frenum—bridle.

13. After the foreskin and glans are cleansed, cause the patient to direct the rubber tip of the irrigator to the lips of the meatus—opening or mouth of penis—until they are entirely clean.

14. Show him how to press the left thumb and index-finger upon the upper and lower surfaces of the glans. This will open the meatus. Into the so opened meatus have him direct a gentle stream until it shows its clean, red mucous lining. Direct him to approach the rubber tip closer, as he gradually increases the force of the stream, until the soft rubber tip is within the meatus.

15. Direct the patient to continue pressing the bars of the shut-off slowly together until the full force of the stream is obtained, or if a disagreeable tension of the urethra results, have him check the force of the stream. Warn him that he must not wedge the soft rubber tip into the meatus so tightly as to prevent the outflow of the fluid.

16. With a little care the patient can be taught to so hold the tube and the penis that the fluid spurting from the meatus will be caught by the shield and directed to the pan or apron. Consequently no portion of the room, of his garments or his hands need be soiled.

17. Have him cleanse his hands thoroughly with a stiff brush, hot water and soap.

18. Show him how to soak a piece of absorbent cotton in bichlorid solution, 1 to 6000, or 1 to 10,000, and place it on the glans to cover the meatus, drawing the foreskin forward to hold the cotton. If his foreskin has been removed, or if it is too small to retain the cotton, teach him to fasten it in place with a two-inch gauze bandage. If bichlorid irritates the glans, order the patient to use a saturated solution of boric acid instead.

19. Impress on the patient that when he goes to urinate he must throw the cotton that has been on his penis into the water-closet or, better still, burn it. After each urination, he must apply fresh, clean cotton, as above directed, and wash his hands thoroughly thereafter.

20. Teach the patient to cleanse the irrigator after each irrigation, by passing boiling water through it; the shield and rubber-tip by first washing in hot water and soap, and then scrubbing them with bits of cotton soaked in strong bichlorid solution—1 to 1000. The instrument must be dried before it is put away, and the clamp should be forced open by means of the switch, so as to save the tube from wearing at the compressed point.

Throughout the foregoing instructions the patient should be especially warned that when performing any part thereof, he must not approach his hands to any portion of his face, nor use his handkerchief, lest by either means some of the discharge be carried to his eyes.

THE SOLUTIONS USED.

As circumstances may oblige the physician to instruct a patient in the preparation of irrigating solutions, I here note the directions in this regard, which are ordinarily used in such cases. Naturally the selection of the drug employed must be governed entirely by the special conditions that prevail in each case.

In the vast preponderance of cases, permanganate of potassium is as yet used in the treatment of gonorrhea. The most convenient form of using this drug is in

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[2] Younger practitioners will do well to avoid the use of technical terms, even toward well-educated people. The method of giving directions to patients, that seems to appeal to the majority, is to use the ordinary expressions, coupled with correct anatomic designations, when they differ from those commonly employed.

2-grain tablets.[3] The necessary number of tablets may be dropped into a clean tumbler of cold water and crushed to hasten their solution. The irrigator may then be filled or half filled with water, as hot as can be comfortably borne by the finger, and the glassful of solution poured into it. Great care should be taken that no undissolved particles of permanganate remain, as they will burn the urethra.

For convenience of calculation, the following sufficiently accurate table is offered:

	Potas. Permang.	Water.
1 to 12,000	1 two-grain tablet	to one quart.
1 to 6,000	2 two-grain tablets	to one quart.
1 to 4,000	3 two-grain tablets	to one quart.
1 to 3,000	4 two-grain tablets	to one quart.
1 to 2,000	6 two-grain tablets	to one quart.
1 to 1,000	6 two-grain tablets	to one pint.
1 to 500	12 two-grain tablets	to one pint.

Only in very rare cases will a quart of 1 to 1000, and only most exceptionally will a quart of 1 to 500 solution be required.

OTHER SOLUTIONS FOR IRRIGATION.

Silver nitrate is used in solutions of from 1 to 10,000 up to 1 to 500.

Mercuric bichlorid is employed in solutions of from 1 to 50,000 up to 1 to 5000.

Cupric sulphate is made use of in solutions of from 100 to 1000 up to 250 to 1000.

Largin, of the new silver preparations, is the richest—11 per cent.—in silver and seems thus far the most effective while gonococci are present in the urethra. The solutions used are from .25 to 1.5 per cent. Owing to the difficulty of correctly making these solutions, and the necessity for precision, it is best to have them made by a pharmacist in double the strength required. The patient can then dilute the solution with hot water to the quantity and temperature needed. Pezzoli,[4] who first advocated largin, recommended that it be retained at first for five, and later for fifteen, minutes. The difficulty of doing this and the use of a clamp for holding it in the urethra suffice to make this drug unpopular. If used in irrigation its ends are accomplished without this complication.

Mercurol, the newest gonococcocide, seems to promise even better results than the silver preparations. Its use in urethral irrigations may be safely begun with a .25 per cent. solution. The results obtained by irrigations of mecurol have been elsewhere published.[5]

As mentioned before, the selection of the drug to be employed in each case is governed by the conditions which prevail.

INTERVALS BETWEEN IRRIGATIONS.

The tables carefully worked out in "The Irrigation Treatment of Gonorrhea; its Local Complications and Sequelæ,"[6] show the precise intervals which should elapse between each irrigation in acute and chronic gonorrhea. It therefore seems unnecessary to repeat them here in detail. It will suffice to note that experience has shown no good results from irrigating with potassium permanganate, silver nitrate, mercuric bichlorid or cupric sulphate oftener than every twelve hours in the beginning of gonorrhea. Largin, however, does no harm if used three times daily, while mercurol irrigations sometimes prove efficacious when used every five hours during the day.

The technique of intravesical irrigation has been so fully discussed elsewhere by the writer that it need not be repeated in connection with the auto-irrigator. Only most exceptionally can a patient be entrusted to perform it, and even then with a degree of risk which few physicians care to incur. The majority of patients can, however, be taught to properly administer urethral irrigations to themselves, provided they can not, for any reason, visit the physician to have them done. The need of intravesical irrigation obliges even the most reluctant patient who has been taught the use of the auto-irrigator to visit his physician once on the third, fourth, ninth and tenth days. In addition to assuring the proper treatment on these days, the patient has the advantage of frequent examinations, during which the inception of any complication is observed and its consequences averted before they may become serious.

When intravesical and anterior irrigations are required on the same day, the former should be administered first, lest some of the stronger irrigating fluid left in the urethra be carried into the bladder, thus possibly producing cystitis.

With some men the compressor—muscle that holds back the urine—so easily relaxes that the fluid used in anterior irrigations enters the bladder, without any effort on their part. These persons should take their anterior irrigations sitting, with a hard towel knotted under the perineum—behind the testicles. Where this does not suffice to keep the fluid from entering the bladder, the patient can not be allowed to ever attempt to irrigate himself.

Occasionally a case is seen in which the discharge and all other evidences of disease disappear after one, two or three irrigations. For safety's sake the whole ten days' course of irrigations should be continued. And even then the patient must be warned not to deem himself cured until negative results have been obtained by the tests detailed elsewhere.

Should a patient apparently have recovered from gonorrhea, and then without any cause the discharge appears again, it is due to an infection of some of the organs in connection with the urethra. All practitioners should warn their patients that if the discharge should so appear while they are traveling they should seek advice as soon as possible from another physician if they are prevented at once from reaching their own medical adviser.

ACCESSORY PRECAUTIONS.

As the greater part of this paper is written for physicians whose experience with gonorrhea is somewhat limited, the principal precautions that a gonorrheal patient should observe are, for convenience, here placed together.

Food.—The diet should be nourishing and no changes made from the patient's habitual food. Articles difficult of digestion should be avoided, as should also late suppers.

Drinks.—All alcoholic drinks—whisky, brandy, beer, wine—should be positively forbidden. So also should all carbonated drinks, such as Vichy, Seltzer, soda-water, ginger ale, sarsaparilla, etc. An exception is made in reference to people who are habituated to stimulants with their food. Lest their ability to take the necessary nourishment be diminished, they may be allowed a glass or two of light claret at meals. Large quantities of water should be drunk, say a gobletful every two hours; or similar quantities of milk if patients prefer it.

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[3] Patients have informed me that druggists occasionally offer for sale what they call "Valentine's tablets" for the treatment of gonorrhea. On investigation I have found these to be nothing but 2-grain permanganate of potassium tablets, distinguished only by an exorbitant price. Physicians should explain to patients that such abuse of the author's name is always unwarranted, and always springs from the cupidity and avarice of an unscrupulous dealer.

[4] Pezzoli, C.: Wiener Klin. Woch., Nos. 11 and 12, 1898.

[5] Phila. Med. Jour., May 12, 1900.

[6] Published by Wm. Wood & Co., New York, 1900.

Bathing.—The habitual daily bath need not be omitted because of gonorrhea. But to protect the eyes of the patient and those of other persons who may use the bathtub after him, he should, before bathing, cleanse the penis with absorbent cotton soaked in bichlorid, 1 to 6000, cover its head with cotton similarly soaked, and then draw a well-fitting condom over the entire organ.

Exercise.—While the patient should not indulge in vigorous exercise, he should walk in the open air enough to keep his general condition as good as possible. Bicycling, horseback riding or athletics in any form can not be allowed.

Suspensory bandage.—Every patient with gonorrhea should be advised to support the testicles continuously in a well-adapted suspensory bandage. It should have "back-straps" that pass between the thighs.

Stains from potassic permanganate.—Should patients, through awkwardness, stain their fingers with potassic permanganate, they will naturally desire to remove the stains. They may be instructed to use oxalic acid for this purpose, and duly warned to carefully wash the hands after its use.

AUTO-IRRIGATIONS IN PROSTATIC ENLARGEMENT.

It will at once occur to my colleagues that this apparatus must prove exceedingly useful in preventing the too frequent, sad results of self-catheterization as employed by old gentlemen with prostatic enlargement. It is perfectly true that many of these do not exercise even the precautions of ordinary cleanliness, despite which for a course of years they continue to live comfortably and are as well as is possible with such an ailment. But the many who die in consequence of infection are sufficient cause for deep regret to the physician, who was obliged to yield to their importunities to be allowed to relieve themselves.

In cases in which the feasibility of radical operative procedures is doubtful, or when the patient refuses to incur their risks, infection can be avoided by the following method of aseptic catheterization: Instruct the patient

1. To cleanse the mouth of the penis with absorbent cotton soaked in bichlorid, 1 to 6000.
2. To half fill the irrigator bag with warm 4 per cent. boric acid solution.
3. To wash out the urethra as directed above.
4. To insert the catheter.

After the bladder contents have passed off through the catheter:

5. The irrigator bag should be filled with a warm solution of boric acid, 4 per cent., silver nitrate, 1 to 2000 or 1 to 3000, or potassic permanganate, 1 to 6000—whatever solution the physician deems most desirable in the special case.
6. The nozzle of the irrigator is then to be inserted into the mouth of the catheter, the fluid is allowed to enter for a quarter of a minute, then the nozzle is removed to let the fluid escape from the catheter to cleanse it—this is repeated several times, until the fluid that comes from the catheter is quite clear.
7. Then the tip is reinserted into the mouth of the catheter and the liquid allowed to flow into the bladder until that viscus is comfortably filled—in some cases a smaller quantity is indicated.
8. The nozzle is then removed, and the bladder contents are allowed to escape.
9. Maneuvers 7 and 8 are repeated until the liquid flowing off is quite clear and transparent—in exceptional cases this can not be attained.
10. After the last emptying of the bladder as above, the liquid is allowed to flow into the bladder continuously for half a minute, then, without removing the tip from the catheter, the latter is slowly drawn out of the channel, which is washed by the fluid as it escapes during withdrawal of the catheter.

The above general directions must necessarily suffer modification according to the individual requirements of each case.

In conclusion I beg to submit: 1, that the auto-irrigator offers a safe and convenient means of anterior urethral irrigation in gonorrhea, when the patient can not visit his physician for the purpose; 2, that the auto-irrigator furnishes a convenient addition to the instrument bag for performing ante-operative and post-operative irrigation of the urethra and bladder; 3, that it is a most convenient apparatus for aseptic catheterism.

31 West Sixty-first Street.

TREATMENT OF PROSTATIC HYPERTROPHY.*

PARKER SYMS, M.D.
NEW YORK CITY.

Prostatic hypertrophy causes misery to a large proportion of men in advanced life, and results in such serious consequences that we must welcome every effort that is made to our means of curing or relieving its unfortunate victims. Fortunately much has been accomplished in this direction of late, and the author wishes to take this opportunity to present a new device that aids in the operation for radical cure.

When the prostate gland becomes enlarged it sooner or later acts as an impediment to the emptying of the bladder. In some cases it causes but little obstruction; in others it prevents the passage of the urine till the bladder is filled and distended, when the urine may constantly overflow by dripping, which is a condition often mistaken for incontinence of urine; or the bladder may be partially emptied by the act of urination, but it can not expel the last part of its contents, which portion, known as the residual urine, remains in the bladder and becomes a source of trouble, as will be shown later. When the obstruction is established the bladder is called upon to exert an extra amount of force and the muscles become hypertrophied and the bladder-wall thickened. Later the muscles degenerate and, when the obstruction becomes more complete, the bladder becomes dilated and atonic. Finally, from the damming up of the urine, the ureters become distended and dilated and open up an avenue for infection of the pelvis of the kidneys. Infection of the residual urine and a consequent cystitis are produced after the obstruction has lasted a variable time, and it is then that the patient becomes one of the worst sufferers imaginable. Usually the cystitis will be brought about by infection through catheterization.

Until comparatively recently it was not known that hypertrophy of the prostate could be radically relieved; in fact, all attempts in that direction had failed or had been found to be so dangerous that they were abandoned as recognized procedures. So the only relief offered to the patient was that which could be given by the use of the catheter, and the degree of this varies immensely. Some who are leading the catheter life suffer merely from the annoyance and discomforts of having to use a catheter. Others are wretched from start to finish; because they become readily infected and are constantly passing from one attack of cystitis to another, perhaps spending their entire time, day and night, in futile attempts to empty the bladder, and suffering pain and torture which are frequently beyond endurance. In such cases much relief can be afforded by proper surgical care, but it is only after tedious treatment, and it is only with the prospect of the patient soon passing through another acute attack of the trouble.

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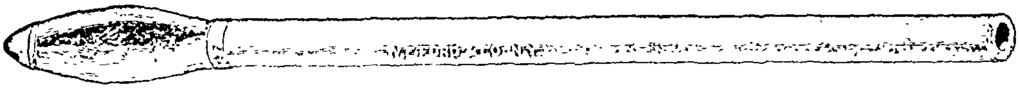
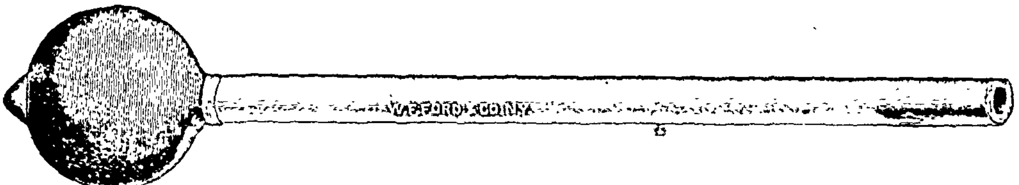
* Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

After prostatic hypertrophy is established nothing can afford permanent relief to the patient except some procedure which will remove the obstruction to the outflow of urine. Many useless procedures have been suggested and tried whose end was the cure of the hypertrophy of the prostate, but so far there remain but two methods which deserve favor in the minds of the profession. The first and most radical is some form of prostatectomy. The second is the prostatotomy performed by means of an electric cautery knife, known as the Bottini operation. This latter does not pretend to remove the hypertrophy of the prostate nor the gland itself. It is intended merely to effect a lowering of the urethral canal by dividing the prostatic portion in such manner that the bladder is able to empty itself voluntarily. The Bottini operation was devised over twenty years ago, by Enrico Bottini, of Pavia. At that time he published an account of the instrument used, and his results; the proceeding was rather extensively tried, but for some reason was abandoned. Recently it has been revived, and to-day it has many enthusiastic advocates who make great claims for it. The author has had no personal experience with this method of treatment, but it is advocated by such able men of late that he has fully determined to investigate it and try it for himself. It is an operation involving but little risk to the patient, and if it affords the relief claimed it is certainly of the greatest value. The most enthusiastic advocates of this method, however, do not claim that it will effect a cure or great improvement in all cases, and they concede that it yet remains for us to be able to distinguish just which class of cases are adapted to it and which are not. It still remains to be demonstrated how lasting or permanent the improvement may be in cases which have been benefited by the proceeding.



38 French Scale.



Dilated to 2½ Inches by Water.
Parker Syms' Bladder Retractor, for Perineal Prostatectomy.

A line of treatment in which the author has had experience is prostatectomy, and his results have been so gratifying that he has been led to feel that this operation is one of the greatest achievements of modern surgery. Unfortunately, at the present time the statistics, gathered from reported operations, have shown for this procedure a fatality so great as to condemn the operation if this death-rate must be conceded to be the normal or necessary one. The author believes that this death-rate is not owing to the fact that the operation itself is a very dangerous one, but to the fact that the patients, when operated on, have been unfit subjects for almost any surgical procedure. When prostatectomy can be performed safely and properly it results in an absolute cure of the patient, and it is the only method for which this may be said. The author has operated on patients who were unable to obtain relief by the catheter and by bladder washing, who suffered most excruciating agony night and day, who had a number of ounces of residual urine and the highest grade of cystitis. The result invariably was complete cure of the cystitis and complete restoration of the bladder function, so that the picture would be reversed, from that of a man who every fifteen minutes or half an hour passed a small quantity of bloody, infected urine, and whose bladder had several ounces of residuum, to one of a man who could hold his urine from six to eight hours and then absolutely empty his bladder with comfort, and whose bladder was free from any evidence of infection.

The above gratifying results are certainly all that can be asked for, and it only remains that we shall be able to bring them about with a reasonable degree of safety. It certainly is not doing justice to the patient, nor to the operation itself, if we undertake this procedure as a last resort. The author claims that the proper time to do prostatectomy is before great damage has been done to the bladder, urethra and kidneys; in other words, it should be performed as soon as it be determined that the habitual use of the catheter will be necessary. If that be the case one will be operating on a patient at his best instead of at his worst. The operation itself certainly is not a dangerous one, and in proper subjects the results should be very good and the mortality-rate low. The author would not advise operating on men who are physiologically very old, in other words, men whose arteries are markedly degenerated, whose circulation is poor, and who are decidedly feeble, but in the ordinary man of 60 or 65, whose bladder is still in good condition, the operation can probably be performed with safety.

In a paper entitled "Prostatectomy," which the author read before the New York Surgical Society, Nov. 9, 1898, he advocated the perineal prostatectomy of Alexander as the preferable method of those then in vogue, but he expressed his objections to the performance of the suprapubic cystotomy, and proposed that, instead, one should make a small opening in the abdomen above the bladder fold of the peritoneum, and through this wound he could push the prostate, bladder and all, down toward the perineum, so that, with the other hand, he could enucleate the lobes of the prostate.

ice writing that paper, he has operated through the ineum, but without making any wound above the bis. In one case he was able to crowd the prostate wn by manual pressure from above, because the abminal wall was thin and easily impressed. In other case he succeeded in reaching the prostate and ucleating its three lobes by means of a special reictor, which he devised and now presents. It consists a rubber tube made of the size and consistence of e ordinary perineal drainage-tube, on one end of which cemented a thin rubber bulb; the bulbous end is serted into the bladder through the membranous poron of the urethra, which has been opened, as after lexander; when the bulb is well within the bladder it dilated by being filled with sufficient water to expand into a bulb 2½ inches in diameter; then traction can made on the strong rubber tube sufficiently to bring e prostate into the perineal wound within reach of e finger, enabling the operator to perforate the capsule nd to remove the gland. The operator has used the straight median incision, not having found it necessary to use one of the transverse or curved incisions of Zuckerkandl, Dittel, or Rydygier, but in certain cases one of these incisions would have great advantage over the shorter ones of the median line. The point the author wishes to make is that prostatectomy can readily be done entirely through the perineum, and that it should not be combined with a suprapubic cystotomy. The author feels that the perineal drainage of the bladder is of importance when a cystitis is present, but that it is not a necessity otherwise, and if the patient presents himself for operation before cystitis has been established the operator should endeavor to remove the prostate without opening the urethra or the bladder.

In closing, the author wishes to urge upon his confrères the importance of the early recognition of obstructing prostatic hypertrophy, and also that they should submit these patients to a radical operation before the cystitis, prolonged pain, infection and fatigue have put them in a condition where they are unfit to undergo a surgical operation.

DISCUSSION ON PAPERS OF DRS. VALENTINE AND SYMS.

DR. C. C. THAYER, *Clifton Springs, N. Y.*—The paper on "Surgical Asepsis of Urethra and Bladder" is valuable, not only in showing how inflammatory conditions may be prevented in these organs, but cured. Cystitis is microbic in origin, and suppurative in character, the sine qua non being infection. The initiative and predisposing cause is structural change, and the provoking and perpetuating cause is inoculation with microörganisms, the vesical inflammation being instigated by bacterial infection and determined by circumstances. The urine is the medium of intelligent diagnosis of the presence as well as of the particular phase of cystitis; but considering the many pathological conditions that may affect the character of the urine after it passes the bladder the exact condition of the lining of the bladder can not be accurately diagnosed from urine passed in the normal way, or until all the parts affecting the urine after passing the bladder are free from pathological elements belonging to them.

As the pathology of cystitis may be embraced under impaired nutrition and structural change in the lining of the bladder, and bacteria of suppuration, the treatment is clearly indicated, but in reverse order, namely, to overcome the infection which produces the inflammation, the structural change which the inflammation produces and the imperfect nutrition which favors structural change; hence, local aseptic treatment is necessary in the treatment of cystitis. Milk or soft-food diet, saline laxatives as required, frequent hot sitz baths, hot poultices, hot salt bags or the Japanese stove over the bladder, and the patient kept in bed are important adjuncts in the treatment of acute cystitis. If the symptoms are not ameliorated in two or three days, the urethra should be disinfected, a soft aseptic catheter introduced, the urine drawn, the bladder thoroughly flushed with sterilized water 105 F., in which soda benzoate or Seiler's tablets, 2 grains to the ounce, is added, after which the bladder should be filled with some antiseptic solution. As the bladder has no anatomical, but a physiological, capacity, the quantity of water must be gauged according to the comfort of the patient, and the temperature about 105 F.

My method has been to use a one pint fountain syringe with a pipette nozzle, which can be readily attached or detached from the catheter after it has been introduced, so that the bladder may be flushed several times and germicides introduced before removing the catheter. Perhaps the bichlorid 1 in 3000 is most destructive to most of the bacteria, one to four ounces being introduced and then allowed to pass out. This is repeated twice daily for three days to destroy bacteria and spores, then leaving an interval of three days. As the bladder is improved, and the patient comforted in bad cases by frequent irrigations, other remedies and reconstructives may be employed, namely, two ounces or more of the strained infusion of verbascum, calendula or balsam of Peru, with two or three drams of formaldehyde solution to prevent the ammonical decomposition.

Chronic cystitis is often occasioned by prostatic hypertrophy so well set forth in the second paper. This condition is tedious and not hopeful in prognosis, except when normal anatomical relations can be restored. The two reasons for this are the mechanical obstruction to the flow of urine by the hypertrophied prostate, overcoming the normal action of the detrusor urinæ muscle, and the decomposition of the residual urine. Treatment for these cases should be as suggested in the treatment of acute cases and that applied to the hypertrophied prostate surgically, as well set forth in the paper, or by forcible dilatation of the urethra by warm bougies.

In acute attacks of the prostate, occluding the urethra, the condition becomes serious, because of the difficulty of introducing the catheter and emptying the bladder. Nearly a year ago, and after vain attempts by several to pass a catheter past a hypertrophied prostate, and after the parts were quite lacerated, a metallic catheter was finally introduced through the stricture, and fearing lest it could not be introduced again if removed, I kept it in place for sixteen days, through which the chronic cystitis was successfully treated, the urethra satisfactorily dilated, and since which the patient has had no further trouble.

DR. GEORGE CHISMORE, *San Francisco*—Dr. Valentine has presented a very ingenious instrument to prevent sepsis in washing out the bladder. Anything that will diminish the danger of irrigation must be accepted with pleasure. I am sure that much mischief often follows the introduction of germicidal solutions into the bladder. I do not believe any one can devise a germicide that will destroy injurious germs in the bladder and leave the organ unharmed. Of the last paper, in reference to the removal of the prostate gland through a median perineal incision, the method recommended seems a good one. Any means that will give permanent relief to the evils that arise from senile hypertrophy of the prostate gland deserves the greatest consideration at our hands.

On the whole, prostatic surgery has been disappointing; the future of this operation seems more hopeful. I have lately had the pleasure of witnessing a median perineal prostatectomy by Dr. George Goodfellow, after a method he has been using for several years with gratifying results. He places the patient on the back with the thighs very strongly flexed on the chest. This position gives the surgeon such a command of the prostate region that he can readily enucleate the entire gland through a very moderate incision.

DR. CARL BECK, *New York City*—The antiseptic, or rather aseptic, efforts of Dr. Valentine have my warm sympathy and I do not believe that too much antisepsis or asepsis can be practiced. Every introduction of an instrument into the urethra is virtually [illegible] tion, and should be preceded by the same care. If we do [illegible] operation on the outer surface of the body we do not conte[illegible] ourselves with pouring a little boric acid on it, but we are contented only after scrubbing with soap and water and subsequent application of alcohol and bichlorid of mercury or a similar antiseptic. Even then there is another surreptitious enemy of asepsis, intracutaneous bacteria, which should not be underrated. These can not be reached by any disinfecting process. They are set free as soon as there is an injury of the integument, and it is only by protecting the skin-margins of the wound with sterile compresses, after the skin is dissected that they can be kept in check. No precaution of this kind can be taken in the urethra, which moreover is a much more congenial resting-place for bacteria than the skin-surface of the body, the follicles offering microbic shelter, which can not be reached by intraurethral injection. If there is an injury, be it caused by a cutting instrument or by the friction of a catheter, not only bacteria of the intraurethral surface but also those sheltered by the follicles have a good opportunity to infect the adjacent tissues. This finds its simple clinical illustration in the fact that whenever blood shows after catheterization, there will be a chill, the instruments having opened an avenue for infection. Thorough prophylactic disinfection of the urethra is still a pious wish. This, however, should not encourage any sins of omission. As our active antiseptic drugs, like bichlorid of mercury, etc., can not display their valuable properties as fully in the urethra, we would better rely on a passive bacterial destroyer, like iodoform, which, while powerless where there is no injury, displays its unequaled properties in the presence of a lesion. Therefore, I advocate the prophylactic injection of 5 per cent. in glycerin before the introduction of an instrument in the urethra. If an abrasion is caused, the iodoform will come in contact with the wound-serum at its stadium nascendi. Iodin is set free, and during this chemical process bacteria are destroyed or their development at least is arrested.

Dr. F. W. Robbins, Detroit—I am surprised to hear the continual repetition of so many drugs as internal antiseptics. I have been interested in treating the urethra and bladder as recommended by Dr. Valentine for years, but I am not as enthusiastic as he has been. I am sure that irrigation of the urethra and bladder is of great importance. We find people among the laity who seem to think that they can irrigate the bladder just as well as we can, and they do not get the good results Dr. Valentine does. People feeling this way tend to throw the method of irrigation into disrepute, and any instrument which will become to the laity an easy one to use is going to still further increase the opposition to irrigation. The bag is very soft, easily broken and destroyed. I see no advantage over the ordinary fountain syringe with the exception of the arrangement at the nozzle. If the Doctor would throw aside all the rest of his instruments he will have a method which can be used in all cases where special treatment is necessary. Personally I consider urotropin to be the only internal urinary antiseptic of any value.

Dr. J. Rilus Eastman, Indianapolis—There can be no question that Dr. Valentine deserves great credit for having perpetuated and championed in America the useful principles of urethral irrigation as enunciated by Janet. Valentine has shown us that very often the catheter introduced for irrigation produces in mechanical irritation more trouble than is relieved by its flushing. Janet and Valentine emphasize four points in the potassium permanganate irrigation treatment of gonorrhea, namely that the solution should be injected hot, often copiously and under pressure. These are indisputably the cardinal points to be kept in mind. It is a question, however, whether all this can not be accomplished by a safer and simpler method than that of Dr. Valentine; whether the author's object can not be brought into execution as effectively and more conveniently with a large blunt-nosed metallic syringe provided with a protective shield. I believe that when the thumb pressing the piston becomes educated to the syringe, the pressure can be gauged as accurately and controlled as well as with the apparatus of Valentine. The large syringe is more easily sterilizable. When it is used the solution is taken from the top of the container by withdrawing the piston. The solution is therefore not apt to contain irritating crystals. When the permanganate solution is emptied into the jar of the Valentine irrigator the crystals, if any be present, precipitate at once to the bottom of the jar and are first to enter the urethra. It may be said that care will obviate the danger of introducing the crystals with the irrigator, but is it not after all a constant menace? The nozzle which Dr. Valentine has shown us this afternoon is too long and too pointed. It will certainly pass clear into the fossa navicularis of the average urethra and produce much irritation. It is made of soft porous rubber and will hardly be easily susceptible of perfect sterilization.

Dr. J. B. Bullitt, Louisville—The principles that Dr. Valentine stands for are certainly proper and right, but it seems to me that an apparatus such as he has exhibited to-day is unnecessary. Progress should always be toward the simple, rather than the complex, and, as one man has said, there certainly is no need of anything more for carrying out the procedure than an ordinary fountain syringe and a properly-shaped nozzle. The sheath is certainly of value, but I should say that the most important part of his apparatus is the little clip whereby the stream can be turned on or off. This is needed in many operating-rooms, and I shall adopt it. I do not think you can well gauge the pressure of a stream of water by the ordinary piston syringe, but you can gauge the amount of resistance, and that is all. I do not believe that this syringe is more easily cleansed than a fountain syringe. I do not know of any class of cases that tries the surgeon's patience, if not his skill, so much as an old man who has reached catheter life. Draining by suprapubic operations in some cases will work admirably, but many of the bladders become infected and contraction with thickening of the walls results.

Dr. F. D. Gray, Jersey City—I wish to assert my belief in the superiority of enucleation over the Bottini operation. I have not done the latter operation, but I see theoretical disadvantages in it. An operation, however, such as enucleation, which the average general surgeon like myself can do without having first witnessed it, simply having read the technique, and which he can perform with comparative ease and with a good result both as to recovery and as to the function of the bladder, is not an operation to be ignored. The invention of Dr. Syms is a good one, but I see some advantages in doing the old operation, comprising the suprapubic cystotomy. It is important to be able to have the tip of the finger inside the bladder on the prostate gland to make counter-pressure during the work of enucleation, and the device of Dr. Syms, while very ingenious, can not, in my opinion, take the place of the finger. I have also wondered why in place of suprapubic cystotomy it is not sufficient to force down the prostate with one or two fingers in the rectum, hooked over the prostate or against it, particularly while enucleation is being done with the other hand, thus avoiding opening of the bladder either above or below. In case the fingers can not reach sufficiently to produce counter-pressure in the rectum a proper modification of Syms' rectal speculum could certainly serve the purpose.

Dr. Ramon Guiteras, New York City—Washing out the urethra and bladder always improves their condition even if you use simple water or a saline solution, and the use of a mild saline solution enhances the value of the irrigation. Practice makes perfect in all cases. Dr. Valentine can irrigate patients much better than they can do it themselves, but if the Doctor is absent then the patient can be taught to irrigate himself sufficiently well to improve his condition. I do not think, however, that the patient should be allowed to irrigate when he has obstruction, as when the cystitis is dependent on a stricture, or an enlarged prostate. In employing this auto-irrigation method a certain amount might remain in the bladder and cause irritation. I do not believe there is any comparison between a piston syringe and a fountain syringe. A piston syringe can occasionally be employed, but in a majority of cases you can not be guided by the amount of pressure. A patient who is being irrigated always knows when his bladder is full and can tell you when he has sufficient fluid in the bladder to cause him discomfort; then the inflow should cease. All further distention may do harm and will certainly cause bladder strain.

As to the treatment of prostatic hypertrophy, it is still in its infancy, and when you come to consider the various methods of treatment of the day there are really only three or four: the catheter, enucleation and Bottini, with perhaps a palliative method with the formation of a permanent fistula. The question is when shall we do enucleation and when shall we do a Bottini? We should never do an enucleation in cases where there is a pyelonephritis, or very much damaged kidneys, or where there is a great amount of arterial disease. The class of cases on which to do an enucleation, as a general thing, can be determined by any one who has a good genito-urinary touch. He will find that the prostatic urethra is elongated and will be able to feel that bump or pillow, as you may call that projection of the middle lobe into the urethra. By rectal touch he can determine the size of the prostate, but very often simple manipulation of the finger is not sufficient in order to feel the prostate because the bladder prostate sometimes differs from the rectal prostate. A man may feel the prostate by the rectum and it may not seem to be large, but the middle lobe will extend up into the rectum and you will have a much larger prostate than you have any idea of. All these large prostates which feel like door-knobs when felt through the rectum are cases for enucleation. Lateral-lobe prostates are better enucleated by the perineal method, while if there is an enormous middle-lobe hypertrophy it is just as easy to enucleate by the suprapubic incision. In most prostatectomies there is a double incision. There is a certain class of prostatic hypertrophies where the Bottini operation is not very much needed, but it is indicated where there is a small middle-lobe enlargement causing sufficient impediment in the prostatic urethra to give rise to a large amount of residual urine. Such cases may be immensely improved by this operation, and it is not so dangerous as enucleation. In the case of a man who has a good genito-urinary touch and who selects his cases I do not think that the mortality from the Bottini operation should be more than 5 per cent., but in the hands of a novice who has simply read a description of the operation, there would be a mortality of not less than 15 per cent. In the most favorable cases enucleation would give a mortality of not less than 20 per cent. in the hands of the most experienced genito-urinary surgeon. There is no more difficult operation and it requires the greatest familiarity with the parts and the best surgical skill.

DR. F. C. VALENTINE, closing—Dr. Syms expresses preference for enucleation in confirmed prostatism. In this, I am convinced, the majority of surgeons agree, owing to the necessarily great hazards that still beset searing the prostate in the dark, as is done by the Bottini instrument. This operation, however, is likely to receive a new impetus, and become the less dangerous one, from the new incision-cystoscope recently devised by H. R. Wossidlo, of Berlin. By its means the obstruction can be seared under the guidance of the eye. As concerns my paper, I deem that our thanks are due Dr. Thayer for giving us, in his discussion, the benefit of his ripe experience. It is perfectly true that a number of colleagues have advocated the ordinary fountain syringes for urethral and intravesical irrigations. I need not call attention to the dangers to others of a household instrument being used for this purpose, nor the difficulties which its thick material imposes on the patient who for any reason can not be irrigated by his physician whenever necessary. Moreover the fountain syringe is of questionable sterilizability, while the little device I have shown can be boiled in its entirety and so rendered perfectly safe. In the treatment of enlarged prostate, when it is certainly impossible for the physician to relieve the patient's bladder and to wash it as often as necessary, the patient can be easily instructed to insert the soft conical nozzle of this auto-irrigator into the catheter, and to withdraw the nozzle as soon as he experiences a slight vesical tension. The fluid used for cleansing the bladder then escapes, as did the urine, through the catheter. With a little more instruction such patients can be taught, by the same means, to leave within the cleansed bladder, such a quantity of the antiseptic liquid as the physician may direct, and to further irrigate the urethra during the withdrawal of the catheter. I certainly agree, as must all others, who have had much to do with gonorrheal patients, that clap is entirely too dangerous a disease to allow any part of its treatment to be relegated to the patient. But there are circumstances in which the patient can not visit the physician with regularity. Moreover, there are men who discover their misfortune on the eve of a journey by rail or by sea and who must be helped to at least control the propagation of gonococci, as well as may be. The least intelligent of these patients needs but one lesson to perfectly accomplish anterior irrigation with the auto-irrigator. Such patients are more prone to avail themselves of their physician's advice, when its employment is rendered easy, as it can be with this device. Another consideration, and one of undeniable importance, is in the dimensions of the apparatus, which is so small that it can be concealed; this conserves the natural privacy which every patient desires to maintain regarding his infection. But I must emphasize the fact that I would never relegate the treatment of gonorrhea to a patient, unless when uncontrollable circumstances compel a makeshift.

All must quite agree that when there is no urethral discharge and when the urine is aseptic, and when careful asepsis is observed, the need of irrigating the urethra before and after instrumentation is not always imperative. I would add that this implies a degree of manual dexterity that all practitioners may not have acquired. We have all doubtless seen cases of urethral fever, with all its dangers, in patients who had been treated by others. Our obligation as teachers, it seems to me, embraces the advocacy of especially post-operative irrigation, which we know to be harmless and which, in the experience of those who employ it, has saved patients from urethral fever.

Dr. Chismore says that he does not appreciate how any remedies can destroy germs. I assume that he refers to those to whom infections of the lower genito-urinary apparatus is due. The Doctor voices the views and experience of all other learned men. But he will agree with me, when by a ready, easy and safe method of irrigation infection can be prevented, it is our duty to employ it, and that when an organ is infected it is equally our duty to strive to the mitigation of that infection by all means in our power.

Dr. Carl Beck reminds us of the bacteria which inhabit the normal urethra and which can be doubtless stirred into noxious activity by even the gentlest instrumentation. It is to Dr. Beck's credit that he suggested filling the urethra with sterilized oil containing 5 per cent. of iodoform, so that in the presence of those microscopic lesions which the gentlest instrumentation produces, the iodin which is then liberated exercises its bactericidal effect. The only modification that I would offer to this procedure, so in keeping with the behests of modern science, is the substitution of sterilized glycerin for the oil, because the glycerin being hydroscopic, permits effective irrigation, which would have but little, if any, effect on the urethra coated with oil. Let me repeat here that the results from irrigation can be best explained, in my opinion, by the artificial edema that it produces, rendering the mucosa an unfavorable culture-medium for bacterial propagation.

I regret that I must agree, in a measure, with Dr. Robbins in the danger of such an instrument as I advocate, becoming the property of the laity. But I must ask Dr. Robbins whether he would not prefer that his patients learned to appreciate the dangers of gonorrhea, by such means, rather than to continue to deem it trifling, and amenable to the little "P" syringe and the quack's or druggist's injections. It is just such scientists as himself who will be helped by the little device I have shown.

Dr. Eastman told us that the thumb could be educated to more intelligently gauge the pressure employed in copious urethral washings by means of a syringe, than by the stopcock of the irrigator. While dexterity may go very far in employing a syringe as a manometer, allowance will always have to be made for the differences in individual syringes, as well as in individual urethræ. With the auto-irrigator there is no element of chance; the hydrostatic pressure is graded at will and easily fitted to circumstances and conditions as they vary in each case and in the same case at different times.

DR. P. SYMS, closing—Some misunderstanding must have arisen in reference to the instrument mentioned, which is intended to be inserted into the bladder through an incision in the membranous urethra.

TREATMENT OF TUBERCULOSIS OF THE KNEE-JOINT.*

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The treatment of tuberculosis of the knee-joint may be conveniently discussed under two heads: 1. Constitutional. 2. Local.

CONSTITUTIONAL TREATMENT.

The *constitutional treatment, as a rule, is much* neglected by most surgeons, although we admit that *no specific drug has been found that will cure or arrest* the progress of the disease in every case. Yet as it is not only often a severe drain on the general health, and chronic in nature, special attention should be paid to strengthening the individual and, by proper attention to diet and to his general health, placing him in the best possible condition to resist the attack.[1] As in pulmonary tuberculosis, much benefit is often derived from climatic treatment and from out-of-door life, so in bone tuberculosis the patient should be encouraged to be out of doors as much as possible, and, where the means permit, sent to such climates as have proved specially desirable in the treatment of such conditions. While some do best in high altitudes, others are better at lower elevations, but the crowded city, and the confining life of a hospital are not favorable to the best results. In addition, any organ of the body not in perfect condition should be looked after rather than all our efforts concentrated on the mechanical or surgical treatment of the knee-joint. Complete rest in bed rather than ambulatory treatment is indicated where the patient's joint is tender and where exercise seems to do harm rather than good.

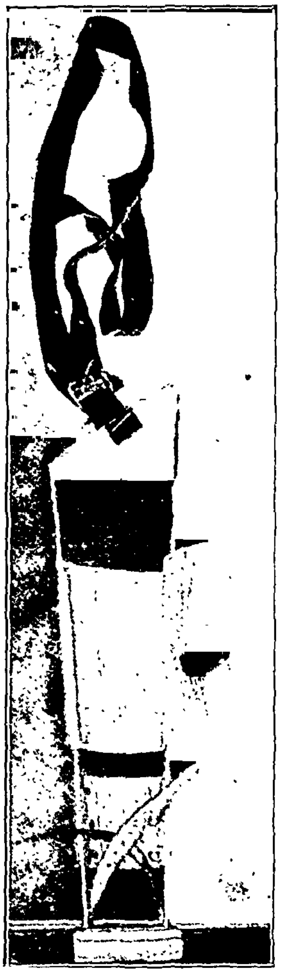
LOCAL TREATMENT.

Local treatment should have in view: 1, the proper protection of the articulation; 2, perfect rest of the joint; 3, the prevention or correction of deformity; 4, the removal of the tuberculous process; 5, the treatment of complications.

The proper protection of the articulation means not only that it should be saved from ordinary trauma, but that even the slight jar produced in walking should be avoided and every possible attention paid to keeping the diseased joint at perfect rest. This can not be accomplished if the patient is allowed to walk and bear the weight on the leg. Crutches are necessary in adults and should be used whenever possible in children. The sound limb should be raised by means of a high shoe or patten, so that the affected side may at no time touch the ground. The particular form of brace used may perhaps not be of great importance provided rest and protection are secured.

At the Hospital for Ruptured and Crippled, New York City, *the most convenient apparatus has been* found to be the Thomas knee-splint. It consists of two *bars of steel fastened at the upper end to a ring which* passes around the upper portion of the thigh, the inner *portion of the ring being just under the tuberosity of* the ischium, the patient thus sitting on it and transmitting the weight of that side of the body to the ground through the bars, one passing down the inner, the other on the outer side of the leg to a foot-piece 2 to 4 inches below the foot, covered with leather or rubber. A leather trough posterior to the limb prevents its slipping back and, by straps passing across the front, the entire leg is firmly held in the splint. Over the shoulders is placed a suspender fastened to the ring, which thus holds it up. If desired, adhesive straps can be fastened to the leg, and by means of straps on the foot-piece extension can be made on the lower leg and the knee-joint surfaces separated and slight deformities due to contraction of the hamstring muscles thus overcome.

To prevent deformity of the knee, plaster of paris, leather, silicate of soda or other materials may be used, but great care must be taken to see that they are made sufficiently long, *if we wish to accomplish anything.* As ordinarily applied deformity either occurs under the dressing or increases because the soft part of the thigh prevents the dressing being applied snugly. To firmly hold the knee and prevent flexion a spica bandage may be necessary; as it does not slip down and as the femur is controlled at both its upper and lower articulation, no deformity can occur. With the knowledge that flexion and other deformities usually occur, they should be prevented, but if they are already present steps must be taken to overcome them. Many methods are in use, the most common being by weight and pulley applied to the lower limb, by traction on the leg with adhesive strips and straps on the brace, the use of slight force and a retentive dressing, with or without a general anesthetic, local anesthetics being of no value, brisement forcé under anesthesia with or without tenotomy of the hamstrings, forcible correction by apparatus, osteoclasis, osteotomy, excision and amputation.



Thomas' Knee Brace.

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* Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] The use of creosote or guaiacol, so strongly recommended by some authorities, can certainly do no harm when properly administered.

The choice of one of the above methods suitable for a given case should not be a very difficult matter. During active disease no violence should be permitted, and even if anesthetics are employed, cutting operations are preferable to the use of great force manually applied, and a safe rule would be to exclude brisement forcé from our list. In all cases we must remember that once deformity has occurred it will remain, unless we correct it, and this should be done early, not only that the limb may be kept in proper position if, unfortunately, a cure is to result with a limitation of motion, but that the muscles, ligaments, etc., about the joint may not be unduly shortened or lengthened, as must occur if the joint is held in a faulty position. The use of an anesthetic and slight manual force with a retentive dressing is a rapid and safe method if properly applied. Extreme degrees of deformity may require osteoclasis or osteotomy if the leg is in knock-knee or bow-leg, and extreme flexion deformities may require excision or amputation.

When we come to consider the removal of the local tuberculosis, we find that many methods have been employed and abandoned, and that in the knee the use of tuberculin, iodoform emulsions, carbolic acid, chlorid of zinc, etc., have not been of great benefit, except in rare instances. The Biers method of passive congestion, much lauded some years ago, has gradually fallen into disuse, and we have to consider whether to do an arthrectomy, an excision or an amputation in a given case. We should, however, lay down the rule that the more perfect our mechanical treatment the less frequent will it be necessary to operate. Arthrectomy or arthrotomy is the most desirable operation in early life, where the soft parts about the joint are much involved. If properly done, all diseased tissue may be removed, both of the soft parts and the bone, and a useful limb, with good motion can be secured, but to be successful it must be done before the joint is destroyed. Excision should rarely be done in children, because it is not indicated in the mild cases and is not radical enough in the severe. The great objection to it, however, is that, by the removal of the diseased bone, the epiphysis is destroyed and the subsequent growth of the limb seriously impaired. The removal of half an inch at the age of 2 years may mean a shortening of 9 or 10 inches at the age of 18. After excision in children prothetic apparatus should be used to prevent subsequent deformities.[2] In adults excision is indicated in a large number of cases, and the mechanical treatment should not be kept up too long and is not followed by as good results as in early life. We might say: in childhood excise only in exceptional, in adult life in the majority of cases.

Amputation may be indicated for the correction of very severe deformities and in cases where the local process is so extensive that arthrotomy or excision are not sufficiently radical.

The complications requiring treatment are abscesses, sepsis and tubercular sinuses. The first two may seem to be similar conditions, but most pathologists recognize a difference. The cold abscess in the beginning is simply a chronic inflammatory condition typical of tuberculosis, but may at any time become septic. The treatment of the two conditions, however, should be the same—perfect and complete evacuation, thorough drainage and, where possible, the closure of the abscess and the obliteration of its cavity. When it is found to communicate with the bone, the local focus may also be removed at the same time. The treatment of septic knee-joints should be most thorough; if drainage is not perfect with the openings on either side, the joint should be thoroughly exposed and no "pocketing of pus" allowed. Excision in rare instances may be necessary, and where the local sepsis has caused grave constitutional symptoms amputation should be promptly resorted to.

The treatment of sinuses is a difficult problem: nearly every drug or chemical compound known to the profession has been tried, and each surgeon has his favorite prescription. Dissecting them out from the bottom, thoroughly cleansing and closing them, or the use of carbolic acid and alcohol, iodoform emulsions, balsam of Peru, hydrogen peroxid or silver nitrate solutions will generally effect a cure. In uncomplicated cases the general opinion is that complete protection should be given the articulation for a period of from two to three years, and in cases complicated by abscesses or deformity longer treatment will be necessary.

Attention to the general health, proper protection and rest to the joint, the intelligent prevention or correction of deformities, aided by proper surgical procedures, when indicated, will prove that tuberculosis of the knee-joint is a disease in which surgeons may accomplish much, and the results will fully justify the expenditure of our best thought and time.

In this paper statistics have been purposely omitted and an attempt made to simply call attention to the broad principles that should guide us in the treatment of this disease.

DISCUSSION.

DR. J. M. BARTON, Philadelphia—In the earlier stages of cold abscess, before any secondary infection has taken place, I prefer, instead of opening and draining, to entirely remove the broken-down tubercular material if this can be done, and then tightly close the cavity. When secondary infection has taken place, of course, drainage would have to be used.

DR. A. J. OCHSNER, Chicago—I agree with Dr. Townsend as regards the treatment of this condition and especially in reference to the first portion of his paper in which he speaks of the general treatment. In large cities there are certain neighborhoods from which we get our tubercular joints and we have such a place in Chicago which we call "Little Hell." If I succeed, in cases from this region, in removing or treating the joint in whatever manner may be indicated in the given case and obtain a good result, and the child returns to this same vicinity, it will certainly come back to the hospital in a year or two with the same joint involved or with tubercular glands of the neck or tuberculosis somewhere. Three miles from "Little Hell' is a section of the city called "Lake View," which is high and dry, where the soil is sandy and the houses are built of wood. There are no basements and all the houses have small yards. If during the time the child is at the hospital I can remove the family to Lake View so that the child can go there instead of back to "Little Hell" the child will gradually return to a healthy condition. Lake View is also occupied by the working classes the same as the other place, but the surroundings are much more favorable for this condition. I have succeeded in moving a number of the families from one of these places to the other, and I believe this portion of my treatment has done more good than a surgical operation. We must remember that these children belong to a nationality which depends very much on others for advice in these matters.

DR. J. B. BULLITT, Louisville—I think the paper is sound throughout, and I desire to call attention to the fact that the protective treatment in these cases has been more universally followed by good results than the operative treatment. Dr. Gibney took the trouble to follow up all the cases which were treated in the Hospital for Ruptured and Crippled in New

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[2] The Prevention of Deformity after Excision of the Knee in Children, N. Y. Med. Jour., April 1, 1899.

York up to 1890. A great many of these cases had been treated by his predecessor, and the plan of treatment had been one of masterful inactivity and many of these cases have practically perfect functional joints. Many of the joints have good motion and are as good as other limbs. The comparison, therefore, as far as function is concerned, was very much in favor of the protective treatment. With the modern protection, such as Dr. Townsend employs, there would be a still greater comparison in favor of this method. That much good is to be accomplished along the line mentioned is unquestionable. The results which I spoke of as being obtained by Dr. Gibney were in cases treated in a large orthopedic hospital where the conditions were not nearly so good for recovery as they would be in private practice in smaller cities.

DR. T. J. SULLIVAN, Chicago—In Chicago, where we have many such cases, the great trouble all along has been with the general practitioner who does not recognize the conditions nor properly and promptly make the diagnosis, so that when the case comes for treatment a great amount of destruction has already taken place, and a great advantage has been lost. The diagnosis frequently made is that of rheumatism, but we may have a secondary mixed infection and great destructive processes can follow. If the profession can do anything in the way of prevention it is by an early diagnosis. Perhaps Dr. Mayo's operation, mentioned some time ago, of making an incision clear across the knee-joint and opening the joint thoroughly, may enable us to avoid amputation in many cases. Children are frequently surrounded by very bad hygienic conditions and tubercular processes go ahead with great rapidity, so that the most important point is the early diagnosis.

DR. W. TOWNSEND, closing—As to Dr. Barton's criticisms concerning the closing of the abscess before it becomes infected. I would refer to the portion of my paper dealing with that point.

THE EDUCATION OF THE SENSE OF TOUCH IN FEEBLE-MINDED CHILDREN AND ITS CONNECTION WITH MANUAL AND INDUSTRIAL TRAINING.*

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Dr. Seguin long ago pointed out that the proper way to educate feeble-minded children was by education of the senses, and that the more thoroughly this education was conducted, the better would be the training which could be afterward given. On this occasion I intend to concern myself more especially with the sense of touch, only alluding to the sense of sight when it may be necessary to do so. Mr. Herbert Spencer has shown how by evolution and specialization the other senses, smell, hearing, sound and taste, could have sprung from touch, and how touch is a universal language into which the other senses which are special languages would have to be translated in order to be understood. Thus we know that the vibrations of ether which strike on the retina stimulate the fibers of the optic nerve, and these fibers, when excited, have the power of awakening the sensation of light in the brain. This is one variety of touch. Another variety is that connected with the auditory apparatus. It is well known that bodies which produce sound are themselves in a state of vibration, and this vibration is communicated to the air with which they are in contact and so throw that air into waves in the same way as a stick waved backward and forward in the water throws the water into waves. These aerial waves entering the ear impinge on the drum of the ear and set it vibrating. This vibration is, by means of delicate structures contained in the ear, communicated to the branches of the auditory nerve in the ear. These being excited produce in the brain the sensation of hearing. It is therefore clear that the sense of touch is a very important one.

But in order that the sense of touch should be well developed it is important that the nervous structures of the skin should be in a normal condition, and that common sensation, as it is called, should be developed to the full amount.

Now, sensation in feeble-minded children is much more dull than in ordinary children, and they do not suffer pain to the same extent. Instances have been known in which the extraction of a tooth seemed to cause little inconvenience and patients occasionally pull out their hair when annoyed. I had a little girl under my care at Darenth, and she at times gave way to violent passion, and would bang her head against a wall or bedstead if not prevented. Dr. Grabham says that he has more than once or twice seen a comparatively intelligent feeble-minded boy sit quietly in a chair while his toe-nail was removed, requiring no one to hold him, and uttering no exclamation, but looking on as if interested, and stating that the operation did not hurt him. He also mentions the case of a child who had severely burned his hand by holding it in a gas flame, and yet he took the first opportunity after recovery to endeavor to renew an experience which did not appear painful to him.

I think the case that impressed on me the idea that feeble-minded patients do not suffer pain to the same extent as sane patients was that of a woman whom I saw in the dining-hall at Darenth Schools. As she was sitting down to dinner I noticed that she looked pale, and made inquiries of the nurse if there was anything the matter with her. Not being satisfied, I asked her to walk upstairs to her bedroom above. On examining her, to my great astonishment, I found that she had fractured her fibula, and yet she was able to walk downstairs and upstairs again, and did not complain of pain. Another sign that sensation is more dull in these feeble-minded children than in ordinary children is that many of them are quite indifferent to cold or heat. Without manifesting the least sensation or apparent inconvenience they will in some cases remain, if allowed, exposed to the heat of the sun in summer and to extreme cold in winter. They have chilblains in winter, owing to their weak circulation, and in summer may get slight sunstroke, but they do not appear to notice either. The skin in chilblains, though attacked, does not give rise to perception, that is, the child does not perceive anything wrong. The sensation of touch exists, but sensation is dulled, either because the perceptive center is wanting, or because the peripheral organ, that is, the skin, can not be relied on to transmit a sensation.

From what has been stated, it is quite clear that common sensation is defective and that the sense of touch must be cultivated. This may be done by making the child grasp hard and soft objects, and by passing his hand over various substances, such as marble, velvet, cloth, silk, etc., so that he may learn to distinguish the different impressions produced by smooth and rough objects. So sensibility to heat and cold may be discriminated by putting the hands into hot and cold water, or by handling bottles or other objects filled with water of different degrees of warmth.

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* Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Having educated the sense of touch, we can pass on to the training of the hand, or manual training, as it is called. In ordinary kindergarten schools great attention is paid to the training of the hand, but previously to the time when this was first brought into use Seguin was at work training the hands of the feeble-minded, and his methods have to a great extent been incorporated with those which are now in use. If we notice a feeble-minded child who has had no education, we shall find there is a great want of co-ordinating power in the muscles, so that the hands with difficulty perform simple acts, such as picking up a pin or buttoning a coat. In the ordinary child this power is acquired early in life, but in feeble-minded children, especially if they have had no previous education, this power is not acquired until late, and if the education is stopped too soon, it is never acquired at all. Thus, I have seen boys and girls, even at the age of 15 years, unable to dress themselves because their manual training had been completely neglected. Parents have an idea that our only object is to teach their feeble-minded children to read, to write, to count, and to paint, etc., and the idea that manual training is required never enters their mind. No doubt this is due to the fact that ordinary children acquire this manual training almost instinctively, whereas feeble-minded children do not acquire it without being specially instructed in it. If you examine a hand of one of these children you will often find it soft and supple, but in directing the child to use the fingers you will see that the movements are badly directed, because the co-ordinating power which directs these movements is not properly developed. Now, how are we to develop this co-ordinating power? The answer is, by manual training. Of course in every case there must be some will power to put into use, for without a will there never can be anything executed. The training of the hand to useful occupation is simply a later stage of the cultivation of purposive movements aided by the progressive development of the senses and the intelligence. If you notice a baby, you will see a number of spontaneous movements, which are, however, quite purposeless, but as age and intelligence begin to dawn, these spontaneous movements are intuitively, or under the care of the mother, brought into coordination and by degrees are made use of for useful purposes. This is what is meant by purposive movements, that is to say, movements which have some purpose in view. In some low-class idiots you will notice quite purposeless, or automatic movements, as they are sometimes called, such as rocking the body to and fro, flicking the fingers before the eyes, and so on, and these movements have to be replaced by purposive movements. Again, you may observe children who suffer from spasmodic or choreiform movements. There are some children who suffer from athetosis, an affection producing constant slow, irregular movements, and in such cases it is necessary to produce a proper co-ordination of the muscular movements. A child suffering from this athetosis should be set to pick up and place in their proper cavities the marbles on a solitaire board. Afterward, what is called a peg-board will be found useful: it is simply a piece of wood with holes in it, in which metallic or wooden pegs have to be placed. The pegs have first to be grasped by the thumb and forefinger and then inserted into the holes in which they fit quite tightly. Then come exercises in threading beads and perforating picture cards, and the building bricks into various forms. All these exercises are exceedingly useful for children suffering from athetosis, as well as for the restless children who are often met with in this class. In all these exercises the hand is supplemented by the eye, and as a rule the hand and eye always work together. This is clearly recognized to the extent that there is a periodical published monthly called *Hand and Eye*.

Many of the exercises mentioned as useful for promoting co-ordination, such as building bricks, threading beads, perforating picture cards, etc., are useful in promoting manual training.

Size and form boards will also be found useful in cultivating accuracy in grasping objects. The size-board is a flat piece of wood in which are rounded cavities of various sizes, into which circular pieces of wood have to be placed, so that the small piece of wood goes into the small cavity and so on. The form-board is also a flat piece of wood with circular, triangular, square, oblong, etc., cavities, into which the corresponding pieces of wood of circular, triangular, square and oblong shape have to be placed. At first you will notice that the child will endeavor to put the square into the round hole, but as time goes on he will distinguish the varieties of shape and place the square into the square hole, the triangular into the triangular hole, etc.

Another method is to have a cushion covered with spots into which the child sticks pins; this will be found useful for training the hand in fine muscular movements.

Easy drawing lessons, painting and making pictures with colored chalks are also useful. Dressing lessons may be given with advantage, not only individually, but as a class exercise, in order to assist children to put on their clothes. Buttoning and unbuttoning clothes, lacing boots and tying bows or knots not only effect this, but ensure fine adjustments of the fingers, which is so necessary to be learned by the feeble-minded. In some cases it may be necessary to teach the use of the spoon and the knife and fork.

As regards industrial training, many of the kindergarten occupations will prove serviceable preliminaries to handicraft. Paper-weaving is an excellent preparation for sewing and darning, and the instrument which pricks perforated pictures will, in the hands of a skilful pupil, often lead to his employment in the shoemaker's shop; sloyd work, too, may in time lead on to carpentering. It must be remembered that these exercises do not merely train the fingers, but also through them the intelligence as well. Clay modeling, variegated paper mats and bead necklaces not only train the fingers, but excite a spirit of emulation which is useful as a stimulant to the feeble-minded child. There are many children who learn more with their hands than their head, and in these industrial training has an advantage over book-learning, such as reading and writing. Of course, the employment to which the child is put must depend to a great extent on his liking or disliking it. Some, for instance, will prefer carpentering, others gardening, and others cane-making or brush-making. Out-door is, of course, preferable to in-door work, but in this variable climate, especially in winter, it may be difficult to continue it, but where there is a farm this objection does not hold good, as the children or boys are under cover, and as they are generally fond of animals, they will be found to take great interest in the cows, pigs, fowls, etc., which are usually placed there.

For children who live in towns, these occupations can not of course be made use of, so that the country in this respect has a great advantage over the town. For those who live in towns, however, there are many kinds of work which will be found useful for the employment of manual training. Cane-weaving and basket-making are easily learned, and so are Macramé work; and wood-carving of a simple character may be even learned by advanced cases. Knitting, crochet and darning should of course be learned, as these occupations will come in very useful, not only for the institution, but for the home, if the child should improve sufficiently to be discharged. In the cases of the rich, there is a great range of employment open, but for those who are children of working men much can be done. Work on the farm or in the garden will be of use in the country, and, if in a town, cobbling, tailoring, basket-making and mat-making should be taught. Girls should be trained in domestic work and in the laundry and also in making garments.

I am aware of the somewhat fragmentary nature of these observations, but they have been put together in the course of a busy life. Such as they are, I hope they may be of use to the audience to whom they are addressed.

EUTHANASIA—A MEDICOLEGAL STUDY.

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The last moments of our earthly career, the moments of transition from life to death, present a solemn and direful spectacle. To employ means to keep the dying individual a little longer on life's shore, or to hasten his "shuffling off this mortal coil," is a question which frequently confronts the physician. We are aware that death does not always come gently, "as light winds, wandering through groves of bloom, detach the delicate blossoms from the tree." Most men die from violence or disease; euthanasia is a rarity. Indeed, it is so rare that the afflictions of only a few organs or structures may bring about this kind of dissolution. We refer to organic cardiac diseases and cerebral apoplexy.

The term "euthanasia" has been variously defined, and is still a word of considerable controversy; so much so that "euphoria" was taken to be its synonym, and in a measure, perhaps, rightly so, as we shall see later. Euthanasia is originally derived from the Greek prefix *eu,* meaning well, and *thanatos,* death, or, in other words, "a painless death." This is the etymological signification of the word. There is also another meaning to it, to-wit: "a *means* for producing an easy death." It is with euthanasia, as expressed in the latter definition, that we shall deal in this paper.

The application of euthanasia is quite ancient. Egypt is, perhaps, its cradle. There it was extensively practiced among its priests, and to a certain extent among the military caste. To these chosen castes, stoicism was unknown; pain, degrading. The priests took upon themselves the solemn oath to alleviate pain whenever it existed, by any means whatsoever. Their medical armamentarium was deficient. Some of the important narcotics and anodynes were absolutely unknown to them. When remedial agents had proved inefficacious, and when death seemed inevitable, euthanasia was the only and last resort. Asia, especially the Orient, follows Egypt in this particular quite closely. The Bible tells us of the easy deaths of Abraham and Moses, namely, that the soul was kissed away by the breath of the Omnipotent. (See Rashi, Bible Commentator.) In fact, the ancient Hebrew considered an easy death to be an earthly reward from Heaven, to which only the righteous one could lay claim. Of the peaceful departure of Buddha, the Veda and Sanscrit furnish us with a beautiful picture. There it is stated, that on Buddha's command, the most venomous of serpents, the cobra, inserted its fangs in the locality of the forearm, and that Buddha thus died away in ecstasy. This and other methods of producing euthanasia are still in vogue in many parts of India. Rome and Greece offer us traditions of a similar nature. In these two countries the most prevalent method of producing euthanasia was to sever the radial artery. Another favorable mode was a goblet of hemlock. Even in modern times, the Mussulman, and, to some extent, the wily celestial, induce euthanasia by inhaling the fumes of the great somnifer, opium, and roll into everlasting dreams of enchanting houris or extensive rice fields.

What these semi-barbarians do unconsciously many civilized nations do as a result of ripe consideration and scientific decision. In this respect France ranks foremost. Whether those conclusions, however, are compatible with the highest principles of ethics, is the question to be discussed in the present paper.

Judge Simeon E. Baldwin, of New Haven, Conn., in the course of an address delivered before the American Science Association, of which he is president, made the following remarks:

"Of late years, it has become the pride of many of the medical profession to prolong such lives [meaning the lives of patients incurable] at any cost, discomfort and pain to the sufferer, or of suspense or exhaustion to his family. The patient has come to a point where he can not bear the thought of eating. The throat declines to swallow what the stomach is no longer able to digest. He craves nothing but to be let alone. A few hours, and Nature will come to his release. She is already, perhaps, fast throwing him into that happy unconsciousness of pain which we call lethargy. The vital forces have been spent. The mainspring is broken and the watch has run down. It can be made to tick feebly for a minute or two by shaking it hard enough; but cui bono? Only another mainspring can mend it. Only another soul, another world, can give value to this human life that is ready to flicker out because it is worn out. . . . Nature has kindly smoothed the sufferer's pillow by leading the way to that gradual exhaustion of the vital powers which follows the refusal of the stomach to receive or to digest food. To force nutriment into the system in such a case through other channels is simply to prolong a useless struggle at the cost of misery to the patient and to the profit of no one but the doctor and the nurse. In determining the nature of a disease, we look for the cause to the symptoms. Nature has so ordered it that symptoms are observed at that time of life when life is most worth saving. A lesion of one organ may then be expected to produce a reaction throughout the system. There is a general sympathy of the parts. On the other hand, in old age, the outward manifestations of an interior lesion seldom indicate that more than one organ is affected, and are often hardly noticeable at all. The patient does not know that he is a patient. There is no occasion that he should. The weakest part of his bodily mechanism has broken down. Why patch it up? Another is hardly less weak, and must soon succumb. Better for him and for his friends that his last days should be unclouded by the apprehension of coming death, and the change come to him quietly as a dream in sleep."

It is evident from what we have cited that Judge Baldwin holds that the physician's duty to save life is only applicable in cases where there is a life to be saved. Where "the mainspring is broken and the watch has run down" there is no use of repairing. Under such circumstances it is best for the patient himself, as well as for his friends, that his life should uninterruptedly pass. By no means would the Judge tolerate the patient to suffer. He also suggests that death "come to him quietly as a dream in sleep." In a word, he favors euthanasia, only in a limited sense, however. At no time during his entire address does he state that physicians should directly hasten death; though should the physician act on Mr. Baldwin's advice, he would really do so indirectly.

Prof. L. F. Barker, of the University of Illinois, at the conclusion of an address delivered before the Ontario Medical Association, Toronto, June 6, 1900, remarked: "If radical cure be impossible, he will not forget the palliative; if at last the exitus lethalis can not be prevented, he will at least see that the end is euthanasic."

The French Academy of Medicine, at one of its meetings, after listening to many cons and pros concerning euthanasia, conclusively asserted that its application is justifiable whenever death is extremely agonizing and only a question of hours. But it was Dr. Bach who advocated euthanasia—in the sense of being a means to produce death—determinately. In 1895, at the Medicolegal Congress, the learned Doctor said: "Physicians have the moral right to end life when the disease is incurable, painful and agonizing." In this country, however, we are not favorably inclined to the dicta expressed above.

To administer drugs with the knowledge that it will produce euthanasia would not only amount to an indictable crime at law, but it would also be regarded as an incongruity to the ethics of the medical profession and to public morals at large.

"Euphoria" is what the physicians in this country will sometimes apply. The term euphoria means the aptitude to bear pain. It also signifies "causing comfort." That is why euphoria is frequently used synonymously with euthanasia, and that is the utmost that our physicians here will accede to. In no case will they directly hasten death.

As a matter of law, it is well settled that euthanasia—in the sense of being a means of producing an easy death—is prohibited. It is an old legal principle that the taking of a life is only excused if it is so done to save a life. In cases of abortion, for instance, the fetus may be sacrificed, if it is necessary, for the purpose of saving the life of the mother. Of course, it may be argued, that a person can only be guilty of homicide if his conduct was the direct cause of death. Hence, if the patient was suffering from a mortal wound he would have died anyway; euthanasia only hastened his end. But such reasoning is fallacious, and not recognized in law. According to law, "causing death and hastening death are the same thing, for all men must die some time." This doctrine is well recognized, and was upheld in Com. vs. Fox, 7 Gray, 585; State vs. Costello, 62 Iowa, 404; State vs. Scates, 5 Jones (N. C.), 420.

In the case of People vs. Ah Fat, 48 Cal., 61, it was held that if one suffering with advanced pulmonary tuberculosis, of which patient would have succumbed within a month, and a person knowing the patient's condition, should intentionally drench him "with cold water, by reason of which death supervenes immediately, he is as much guilty of murder as though he had stabbed him with a knife."

In cases where the physician has no actual knowledge of the danger of his treatment, on account of his own ignorance, so much so that it will amount to gross and reckless carelessness, he is guilty of homicide. (See State vs. Center, 35 Ver., 378; Commonwealth vs. Pierce, 138 Mass., 165.) In connection with this, it should be remarked that if a physician administers a certain drug, fully believing that the drug so administered will not do harm, but that it will benefit his patient, and contrary to his anticipations, it kills him, the physician is not indictable; i. e., providing the physician exercised ordinary care and prudence. (See 6 Mass., 141.)

In England, also, it is well established that the physician is liable for careless conduct. (See Rex vs. Williamson, C & P., 635; Tessymond's case, 1 Lewin, 169; Ferguson's, 1 Lewin, 181; Rex vs. Long, 4 C. & P., 398; Rex vs. Senior, 1 Moody, 346; Regina vs. Whitehead, 3 C. & K., 202; Regina vs. Chamberlain, 10 Cox, C. C., 486.)

From the foregoing it is obvious that the inability of the physician to foresee the evil consequences of his treatment has no weight with the courts of England and America. The question is always, whether the court found "the evil consequences" obvious. And this responsibility of the physician is binding on him independent of the consent of the patient. (See Commonwealth vs. Collberg, 119 Mass., 350.)

Should a case occur where it would be imperative to administer the maximum dose of a remedy, with the intention of assuaging pain and suffering, and should the attending physician anticipate that such quantity is apt to produce simultaneously cessation of the vital functions, and thus anticipating, should he still run the risk and administer that dose, what would be his liability? The law in such cases implies malice. He would, therefore, be guilty of homicide. (See People vs. Sanchez, 24 Cal., 17; State vs. Wells, 61 Ia., 629; Tooney vs. State, 5 Tex., 163.)

Thus far we have shown the consensus of opinion of the medical profession, and the decisions of the courts. This, however, by no means solves the problem. Whether euthanasia shall be practiced or not still remains an open question.

We know that in many cases euthanasia would indeed be a godsend. Let us illustrate it by the following case which occurred in the practice of one of the leading physicians of this city: A man aged 70, German by nationality, received a paralytic stroke disabling him of voluntary locomotion. In consequence of this, he became confined to bed. Improvement set in very gradually. Contrary to the advice of the physician, he began to indulge in walking. He stumbled, fell and contracted an intracapsular fracture of the hip-joint. The same was reduced, but on account of his advanced age union did not take place. Chronic invalidism was his share. He could never leave his bed. Due to degenerative changes, decubitus set in, producing much distress and agonizing pain. In spite of good care, feeding and proper medication, he grew worse. The ulcer extended peripherally and into the deeper structures, laying bare the tuberosity of the ischium. The discharge was fetid and cadaverous, necessitating frequent dressings. He was an incessant menace to himself and his family. He lamented bitterly and implored the physician to induce death. Even the family could not endure the suffering of the old man, and corroborated his plea. To change the dressings meant disgust and malaise on the part of the members of the family and the physician. Half a grain of morphin was given hypodermically for the pain thrice daily, but without avail. Piecemeal, that man rotted away, a source of horror to himself and his surroundings. Such a case is but one of the instances that occur not infrequently in the physician's practice. Would it not be an act of mercy to practice anesthesia to its fullest extent and allow death to "come to him quietly, as a dream in sleep?" On the other hand, should the portals to the application of euthanasia be open, there is hard telling at what stage they would close.

Human beings are presumptuous. Make no restrictions and matters will run riot. Society, in order to maintain and protect itself, can not rely on the judgment of certain individuals. The law, therefore, laid down hard and fast rules, which every one, without exception, must obey. Human beings are weak; temptations are great. Should law be silenced on this point? Some physicians might, under the pretense of doing a merciful act, really commit a deed of felony. Let us illustrate. An old man, very wealthy, is suffering from an acute attack of peritonitis. He has an unlawful child to whom he thinks to bequeath his estate. He also has a nephew who is nursing him, and who is aware of that fact. This nephew is very anxious to possess himself of this old man's estate. Something must be done to prevent the old man from carrying out his intentions. The attending physician is a poor man. The nephew offers him a thousand dollars to apply euthanasia. The physician yields to the temptation. He hastens the old man's ascent to Heaven, and a double wrong is thus committed, to-wit: a life is taken and a rightful heir deprived. It is thus seen that the permission of the application of euthanasia would not infrequently be a paving of the way to injustice and crime. What, then, should we do?

Having considered both sides of the issue, our conviction is that, after all, it is far better for the welfare of society to let a few suffer, and not run the risk of creating crime and criminals. It appears to us that there is ample reason to dread that the practice of euthanasia would, in the long run, cause more harm than good. That is why the law, laboring as it always does for the good of the majority, has logically prohibited it. The working principle of jurisprudence is still the celebrated adage of the great utilitarian, Jeremiah Benton, the greatest happiness to the greatest number.

In no case, therefore, should the physician intentionally or directly cause death. "Causa causæ est causa causati" should be his warning. In other words, whenever the treatment of the physician is the direct cause, he should be considered as having created the cause; hence, he should be held responsible for its effects.

The physician is always under a great responsibility. At no time can he ever exercise too much caution. Due to the variety of circumstances, and the complexity of human nature, no ironclad rules can be laid down. But as a general proposition, it might be stated that he should at all times do his utmost to alleviate pain, and make the pangs of death as void of agony as possible. By doing so he will have complied with the highest standard of ethics, and will earn the gratitude of humanity.

Large Child.

Dr. J. Pfeiffer reports in the *Orvosi Hetilop*, No. 34, what he considers the largest child born in good health and spontaneously. As quoted in the *Bull Méd.*, the child weighed 6600 gm., or about 14.1 pounds. It was 55.5 cm. in length, and the head measured 37 cm. in circumference. The placenta weighed 2150 gm. and the cord was 53 cm. long.

REMOVAL OF A PIECE OF STEEL FROM THE GLOBE BY ELECTROMAGNET.

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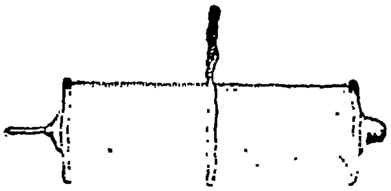
James Andrews, 35 years of age, was presented to me by Dr. William S. Colefax, of Pompton, N. J. March 24, 1900. The patient had received an injury of the eye. While nicking bars with a steel chisel, a chip flew from the bar and struck him in the left eye. The foreign body punctured the globe at the upper third of the cornea, inflicting an oblique wound which extended entirely across the cornea in the superonasal quadrant from limbus to limbus. It passed into the globe through the iris and lens and into the vitreous chamber. The iris was prolapsed and the globe apparently filled with blood. The eye was cocainized and approached with the small end of the magnet devised by the writer; the piece of steel located and as it was engaged by the point of the magnet it was gradually withdrawn, the resistance being very slight. The prolapsed iris was then snipped off and the edges of the wound coapted.



The removed steel was crescent-shaped, 3/8 inch in length, over 1/8 in width and 1/16 in thickness.

The eyes were bandaged and the patient sent to the Paterson General Hospital. He remained in the hospital four weeks; during the first two weeks the eyes were kept bandaged. He made a slow recovery, but never had any pain. During the next two weeks the eye was protected by London-smoke glasses. The only symptom which annoyed him was lachrymation on exposure to the light. There was considerable injection, which persisted. The pupil was distended and the lens cataractous. On May 19, there is very little redness of the eyeball remaining; there is no pain; the patient's health is good. He has been working for the past week; he still has some lachrymation in the left eye in the morning. The tension of the eyeball is normal; the patient can see shadows; the cataractous lens prevents ophthalmoscopic inspection. The appearances indicate the preservation of the eyeball and possible subsequent operative procedure for visual effect.

Medical Testimonials to New Remedies.—This was one of the chief questions discussed at the German Congress of Physicians and Naturalists held at Aix-le-Chapelle in September. Prof. His stated in his address that the creation of a central official laboratory for the testing of new remedies was an urgent necessity. No physician should write a testimonial in favor of a new remedy unless he has exceptional opportunities for testing it in hospitals or clinics. It should only be addressed to the profession and no one should be allowed to use it for advertising purposes in the daily press nor for general distribution. Physicians whose inventions are commercially exploited are responsible for the manner in which the advertising is conducted. Kobert insisted that before a remedy can even be advertised in the medical press it should be subjected to thorough theoretical tests in the chemical, bacteriologic, pharmacologic and physiologic laboratories and then tested on animals.

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THE USE OF INTRA-ABDOMINAL CULTURES IN COLLODION SACS IN THE STUDY OF BACTERIA.

The method of research recently introduced by the successful cultivation, by Nocard, of organisms enclosed in collodion sacs and placed in the abdominal cavity of living animals, has been used by Vincent[1] in the study of the pathogenic adaptability of saprophytic bacteria. He found that by this method harmless varieties of saprophytes, such as B. megaterium and the potato bacillus, could be changed into virulent organisms capable of producing toxins and causing general infection. As pointed out by Nocard, the walls of the collodion sacs permit of a ready change in the composition of the fluid within them, thus preventing auto-intoxication of the bacteria and at the same time the body fluids enter gradually and furnish sufficient food for the germs, which thus become exposed to the influences of growth under the new conditions.

The bacillus megaterium became virulent after four passages, of six or seven days each, through the bodies of animals into which the bacilli were introduced in collodion sacs partly filled with bouillon; intermediate cultures were made on ordinary media between each passage. It now killed mice, guinea-pigs, and rabbits, by producing a general hemorrhagic septicemia. At the same time changes in its growth form were observed. Grown under ordinary conditions the newly acquired virulence was lost again in three months. While virulent, vaccination, with the production of immunity, could be made.

The potato bacillus acquired pronounced virulence after four to seven passages. Spores heated to 100 F. and recultivated did not lose their virulence, but transmitted it to their descendants. The bacillus became pathogenic by virtue of production of toxin and by causing general infection. In this case also the appearances of the cultures were changed.

These interesting experiments demonstrate the plasticity of microbes; it appears possible to subject saprophytic organisms to a progressive education, as it were, adaptation to parasitic life being acquired by cultivation in living media. As would be expected, the saprophytes thus treated have a tendency to recover their hereditary characteristics, but the fact remains that they have been shown to be able to elaborate toxic diastatic products and destroy cells while the bacteria multiply in the ruins. It appears that the distinction between saprophytic and pathogenic microbes is rather an artificial one.

Centani attempted to cultivate the virus of rabies in collodion sacs, but without success. Nocard,[2] however, apparently succeeded in securing pure cultures of the microbe of contagious pleuro-pneumonia of cattle by inoculating some of the material from the lesion into collodion sacs filled with bouillon; he then inserted them into the abdominal cavity of guinea-pigs and other animals. After a time the fluid became turbid and, although the smear preparations did not reveal any microorganisms of such size as to be recognizable with our present powers of magnification, yet the inoculation into cattle of the contents of the sacs, incubated in the animal organism, produced the disease in typical form. Nocard concludes that the organism is so small that we are not now able to see it.

As pointed out by Trudeau,[3] the collodion-sac method of experimentation offers broad fields for the study of the influence upon the germs, their virulence and products, of the growth under such conditions, and for the study of the effect of freshly and continuously elaborated toxins on the living organism while the latter is protected from the direct pathogenic consequences of the spread of the microbe throughout the system at large. The method also seems to open new possibilities in attempts at successful production of artificial immunity and the obtaining of antitoxic substances for the treatment of diseases.

CAN PYOGENIC BACTERIA PENETRATE THE NORMAL GASTRO-INTESTINAL MUCOUS MEMBRANE?

This question has been variously answered by different investigators who have studied it experimentally and otherwise. Bacteria have been found in the chyle of normal animals by some investigators, while others have not been able to demonstrate bacteria in the chyle. Similar contradictory statements are made in regard to the presence of bacteria in the fluid in the hernial sacs. The passage of bacteria through the intestinal walls is held by some to be cause of peritonitis in intestinal paralysis, but even this is denied by others. Kocher was the first to call attention to the gastrointestinal canal as an entrance point of pyogenic infection, e. g., in osteomyelitis. His experiments, made as long ago as 1879, are hardly convincing in the light of accumulated knowledge, and later experiments of others have given contradictory results—Karlinski obtaining positive results from feeding experiments, Alapy and Neisser negative results. This contradiction is probably explainable, at least in part, by the use in some of the experiments of material of but little virulence, and on the other hand by infection from the pharynx, which Lexer has shown recently may follow the introduction of a few drops of culture of virulent streptococci into the throat.

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[1] Ann. de l'Institut Pasteur, 1898, xii, 785-798.

[2] Ibid., pp. 561-568.

[3] Bull. of Johns Hopkins Hospital, 1899, x, 121.

Bail[1] has studied the question again. The experiments were made on rabbits. Five to six cubic centimeters of a highly virulent streptococcus suspension in bouillon were introduced into the stomach of rabbits by means of a soft-rubber tube, great care being exercised to prevent the escape of streptococci into the pharynx. Of 40 animals 7 died from a general streptococcus infection. By means of culture experiments and of microscopic sections it was found that the cocci made their way through the intact mucous membrane of the small intestine and into the blood-vessels of the mesentery. Ribbert and Bizzozzero found bacteria in the normal lymph-follicles in the vermiform appendix of rabbits, and Bail also found bacilli and cocci in these follicles but also streptococci in the walls of the small intestine —where bacteria are normally absent—in 5 of the 7 rabbits that died. Presumably a local superficial enteritis induced by the streptococci prepared the way for their entrance. Bail concludes that intensely virulent streptococci may penetrate the normal intestinal wall and cause a general infection. These results are opposed to those of Buchbinder, who introduced bacteria into the intestinal canal, portions of which he then compressed by means of rubber rings; but it seems according to Bail that the bacteria used were not shown to be highly virulent, and furthermore that the methods used for demonstrating the bacteria in the intestinal walls are open to criticism. Bail's results indicate that virulent streptococci may invade the organism from the lumen of the normal intestine.

The only possible objection to this conclusion would be that infection after all took its point of departure in some other region, such as the pharynx, and that the streptococci found in the intestinal walls were there by virtue of a hematogenous transportation—a sort of elimination—and not as the result of entrance from the lumen. This objection, however, seems somewhat far fetched.

BLASTOMYCETIC DERMATITIS.

The number of cases of this form of cutaneous infection is increasing constantly. Up to this time it seems that typical blastomycetic dermatitis has been recognized and studied by Americans solely. There are now about twenty recorded cases in which the diagnosis is satisfactorily established by the study of the microscopic character of the lesions and the characteristic, budding, doubly-contoured organisms usually present in the little abscesses that form such a prominent feature of the clinical as well as the anatomical picture. And yet it is to be remembered that absolute demonstration of the etiological rôle of the organisms is still wanting. No one has produced blastomycetic dermatitis by experimental inoculation of human beings with pure cultures, and in the ordinary laboratory animals the convincing cutaneous lesions do not follow local infection. But the clinical picture, the histopathology, and the presence of the organisms, which are often easily isolated, at other times with great difficulty or not at all, have left no doubt as to the entity of the disease in the minds of those who have had occasion to actually study it.

Dyer,[1] of New Orleans, describes an instance involving the hands, face and leg of a woman of the better class; he compares the disease with yaws, a widespread cutaneous affection of unknown nature of the West Indies, but without reaching any definite conclusions as to the identity or difference of blastomycetic dermatitis and yaws. Montgomery and Ricketts[2] describe three new cases of blastomycetic infection of the skin, giving full histopathological and mycological details. One case is especially interesting, because the lesion, situated on the lip, much resembled squamous-celled carcinoma. It developed in a man who worked in grain elevators and who had handled grain affected with "dry-rot"—fungous disease. Hyde and Ricketts[3] also describe fully two new instances. In this article is brought out well the peculiar action of potassic iodid in this disease. Given in drop doses of a saturated solution and increased up to the limit of toleration, the iodid in many cases produces a marked improvement of the lesions, but as yet no complete cure has been secured. Here is seen a means of great aid in differentiating blastomycetic dermatitis from cutaneous syphilis on one hand and verrucous tuberculosis on the other. There is no good evidence at all that any of the cases of blastomycetic dermatitis so far observed were in reality examples of other diseases, e. g., carcinoma or syphilis with accidental implantation of blastomycetes. The increased knowledge of blastomycetic dermatitis will lead to the accumulation of observations and as previously emphasized in these columns[4] there is good reason to believe that many instances of this affection have been, and probably are being, mistaken for carcinoma and tuberculosis.

LAY COMMENT ON PATIENT'S INGRATITUDE.

A physician was recently stamped to death in Oklahoma by an ex-patient from whom he was trying to collect a bill for medical attendance. As a lay journal remarks, this appears "to be only a little more exaggerated example of the ingratitude which is manifested every day by a world in which billions of people are very quick to call physicians and very slow to pay them." It is refreshing to note this comment, indicating as it does a correct appreciation of facts in a quarter where it is not always looked for.

NEWSPAPER ENTERPRISE.

The Seattle (Wash.) *Times* of December 26, announces the opening of the Pan-American Medical Congress on that date. The news comes to it by special dispatch; the number of physicians in attendance is given at about 1000, of whom 300 were Cubans, and a large number of Mexican delegates had arrived on a Mexican warship. Few, it says, were in attendance from South America, the distance being too great for any large representation. As an example of newspaper enterprise of a certain kind this special dispatch is rather interesting.

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[1] Arch. f. Klin. Chirurg., 1900, lxii, 369-384.

[1] Jour. Cutaneous and Genito-Urinary Diseases, 1901, xix, 14-25.

[2] Ibid., 26-43.

[3] Ibid., 44-59.

[4] The Journal A. M. A., Aug. 20, 1898, and Dec. 2, 1899.

NEW YORK STATE JOURNAL OF MEDICINE.

Number 1, Volume I, of this new journal is before us. It is published monthly by the New York State Medical Association and takes the place of the annual volume of transactions. The journal consists of twenty-four large double-column pages of reading matter, with eight advertising pages. It makes a good appearance and the committee in charge is to be congratulated on its efforts. This makes the third state body to publish a monthly journal in place of an annual volume, the other two being the Medical Society of the State of Pennsylvania and the Illinois State Medical Society. In each of these states the enterprise is giving satisfaction. It is certainly better to have a monthly journal go to each member than to have an annual volume and this to be placed on the shelf and soon covered with dust. Such a monthly journal gives an opportunity for the members of the medical profession of the state to exchange views on various topics of interest. We note that the new journal opens its pages to advertisers; this is sensible. There is no reason why respectable advertising should not be admitted to a medical journal, and we believe that it is common sense and business-like to accept such. Legitimate advertising is a benefit to the physician, as well as to those who supply him with the many things he needs in his work.

THE SAN FRANCISCO PRESS AND THE QUARANTINE OFFICIALS.

A portion of the San Francisco press has continually and consistently demanded the removal of the quarantine officer of that port, Dr. Kinyoun, because he has not, in the performance of his duty, met their wishes in denying or suppressing facts in regard to plague cases. They have even gone so far as to want him dismissed from the Marine-Hospital Service altogether, though for present purposes his removal to another sphere of action would be most welcome. The latest utterances, however, go farther and charge the head of the bureau with malfeasance in office in not mentioning the cases occurring as "reported as bubonic plague but the diagnosis disputed by the medical profession of San Francisco." The paper that contains the above, charges that the chief of the Marine-Hospital Bureau has deliberately falsified an official record, and suggests a Congressional inquiry. It is questionable whether the results of such a measure itself would be perfectly satisfactory; it might only extend the list of those whose acts and opinions are so offensive to a portion at least of the San Francisco press and public. If that city escapes a serious visitation of the plague, as it is hoped and trusted it may, it will not be due to the hysterical organs like those quoted and to the worried commercial interests backing them, but to the health and quarantine officials who are the subjects of their abuse.

MICHIGAN BOARD OF REGISTRATION AND LOW-GRADE MEDICAL COLLEGES.

The Michigan Board of Registration is making a praiseworthy effort to render efficient a rather imperfect medical-practice act. The Michigan law accepts diplomas from recognized colleges as a qualification for practice, but leaves the recognition to the Board, which, using its authorized discretion has thus far "recognized" some thirty odd institutions out of the two hundred, more or less, in the country. This discrimination is not an arbitrary one, but is based upon personal knowledge derived from inspection of these institutions. The committee of the board to which this duty was assigned, in its recent report, says in regard to some of the medical colleges that have come under its purview: "We regret to say that the printed announcements and catalogues of some of the schools do not represent the facts of the case as shown by investigation. A medical college on paper seems to be one thing and its genuine conditions and requirements as applied to students decidedly another." This is the official statement of a fact well known to every one in the profession and even a stricter scrutiny than that of the Michigan Board would not be amiss. If, however, its methods were universally or even generally adopted it would be greatly to the benefit of the standing of American medicine.

THE BELLEVUE HOSPITAL SCANDAL.

The recent scandal in Bellevue Hospital where certain male nurses were held to the grand jury by the coroner's findings for the killing of an insane alcoholic patient, illustrates a fact that is not always fully appreciated by the medical profession or the public. It is that ordinary nurses' training alone is insufficient to make anyone fitted for the care of the insane, especially the violent cases, a duty that requires special natural as well as acquired qualifications entirely different from those demanded of any ordinary nurse. In view of the general outcry of late years for trained nurses in hospitals for the insane, this fact is important; what may be called the essential moral qualifications of an ideal asylum attendant are not essential in the trained nurse, who is a much more easily manufactured product. This difficulty of obtaining ideal attendants is the most troublesome problem in asylum management, and not infrequently the cause of trouble and scandals. The discipline and morale, however, of a well-conducted asylum are such that fewer abuses occur than might reasonably be feared. Similar discipline is not readily applicable in a general hospital and might easily be lacking in an insane ward attached to it, especially if the ordinary training of nurses is depended on to qualify its attendants. The moral of the recent event in Bellevue is not "abolish the male nurse," as a New York paper puts it, but that trained attendants, not mere trained nurses, are required in a ward for the insane.

THE MEDICAL DEPARTMENT OF THE ARMY.

In this issue there appears a communication from the President of THE AMERICAN MEDICAL ASSOCIATION in regard to the pending bill for reorganization of the army in so far as it involves the medical department.

Dr. Reed shows how the proposed change in the original bill will affect the standing of the medical corps and through it the welfare of the army. It is a fact, but one only beginning to be occasionally appreciated and quickly forgotten again, that the medical department is the most important one in the army in time of war; it is practically the first line of defense and a most indispensable adjunct in offensive operations. In modern war disease is the worst enemy to be met, and it is only exceptionally that it is not responsible for the greatest mortality and combatant inefficiency. An insufficient, untrained or demoralized medical corps means uncontrolled disease and possible disaster, in any case a positive increase of inefficiency of the army as a fighting machine. We had ample illustration of this fact in our late war with Spain, where a trained medical force adapted to an army of 25,000 was called on to do duty for an army of ten times that size, the deficiency of medical force being made up by civil surgeons untrained in military needs. The British experience in South Africa is similar, and both furnish ample proof of the need of well-organized and duly-recognized medical corps. Dr. Reed points out clearly this need and how the proposed legislation will affect it. It remains for the medical profession to use its influence in behalf of the army surgeons and to secure for them proper recognition and treatment in the reorganization.

BLUE GLASS REDIVIVUS.

Many of our readers will recall the blue-glass fad of the late 70's which had a brief career. While it lasted many popular articles appeared upon it, and a book was written which is still occasionally to be seen in second-hand book stalls and elsewhere. While some individual experimentation was undertaken at the time the subject was not considered seriously by the medical profession. It scarcely made any impression on medical literature of the day, at least we can recall no articles of note; it was generally dropped as a popular craze and quickly passed out of fashion. Judging from present developments in phototherapy in which the violet end of the spectrum is mainly used, it may be that there was a neglected germ of truth in the craze after all. We knew nothing then of the Roentgen or the Becquerel rays, nor do we yet know all their possibilities. Now, however, a Russian physician, A. V. Minin,[1] reports remarkable therapeutic effects from the use of electric light passed through blue glass in arresting pain, in some forms of which, intercostal neuralgia for example, there is, he says, nothing like it "for effectiveness and rapidity of action." Its influence, also, in hastening the absorption of blood or effusion is likewise remarkable as he claims, and a number of cases are reported in which these and other advantageous effects were observed. Nothing in this is attributed by the author to other agencies than the blue light, though the question naturally arises whether the influence of suggestion was not in play. With the results reported, however, the experiments are worthy of a test, especially since nothing more than an ordinary 16-candle light from a 100-volt current, passed through blue glass, is required. The exposures varied in number and length in different cases, but were usually ten or fifteen minutes in duration and repeated as required, according to the case. It is hard to see how the applications can do any harm and if there is anything in it, which can not be absolutely denied *a priori*, it is worth a trial.

BACTERIAL TRANSMUTATION.

At a recent meeting of the Société de Biologie, Paris, Dr. Caldas, a Brazilian bacteriologist, reported experiments on the colon bacillus of the rat. By cultivating the organism with a certain mold derived from rice, *Aspergillus orizæ*, and passing it from rat to rat, he finally obtained a bacillus closely resembling the typical plague germ, in great numbers from the glands, spleen, stomach and intestines of the infected animals, which produced, when injected into rats, similar clinical symptoms and was always rapidly fatal. The biologic characters of this organism throughout were the same as those of Kitasato's bacillus pestis and he has no doubt as to their equivalence. He claims, moreover, to have succeeded in rendering a horse immune by venous injections of at first very diluted cultures of the germ, followed by more virulent ones, and with this horse's serum has been able to save rats that had previously been inoculated with the virulent cultures. He gives it as his opinion that the plague in its origin is a colon bacillosis of rats caused by the ingestion of rice containing a mold, *Aspergillus orizæ*, and that the colon bacillus by successive passages from rat to rat takes on the characters of the plague bacillus. Dr. Caldas' experiments do not appear as yet to have attracted much attention, but they are certainly suggestive. Our methods in the study of bacteria are not yet perfect and their taxonomic distinctions are far from being yet fully established. It may be difficult or even impossible to fully determine all the specific characters of these minute organisms, but until we do we can not be altogether positive as to their possible varieties and transformations. The identity of the Sanarelli bacillus of yellow fever is a case in point, and it may be mentioned in this connection also that Caldas claims this germ to be likewise a modification of the bacillus coli, the special virulence of which is due to the presence of a mold.

THE BACTERIAL SELF-PURIFICATION OF STREAMS.

Streams may purify themselves in two ways: of the chemical constituents of sewage and of sewage bacteria. The latter mode of self-purification is discussed by Jordan[1] on the basis of observations made during a study of the water of the Illinois river in connection with the newly constructed drainage canal connecting the Chicago river with the Desplaines river. This—a stupendous piece of sanitary engineering—was recently completed at an expenditure of about $35,000,000, and it conducts the sewage of Chicago into the Desplaines and Illinois rivers and finally into the Mississippi. In order to determine the condition of the water of the Illinois river a series of chemical and bacterial analyses of the water of this river and its tributaries was undertaken and carried on regularly during a period of about eight months. Throughout this period about 85 to 90 per cent. of the total sewage of Chicago passed into the

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[1] Wratch. Dec. 1 (Nov. 18, old style), 1900.

[1] Jour. Exp. Med., 1900, v, 271-314. See abstract No. 29, p. 138, The Journal A. M. A.

Illinois river. Among other results it was found that at a certain point in the Illinois river—between Morris and Ottawa—a change occurred that might properly be regarded as self-purification, because during a stretch of twenty-four miles the river was nearly freed from the mass of sewage bacteria with which it was originally laden, the bacterial content being not greatly in excess of that of the local tributary streams. The cause of this disappearance of sewage bacteria is of interest. Mechanical agitation and aëration, dilution, the action of sunlight, the influence of the plankton, sedimentation and exhaustion of food-supply are discussed in the light of the facts at hand bearing on this particular case. Sedimentation and diminution of food-supply are settled on as the most important factors in the process of self-purification. At the point mentioned the conditions are very favorable for sedimentation, and the chemical analyses show also a marked decrease of albuminous substances, probably through bacterial agency, because there is accumulation at the bottom of foul black mud. Decomposition of large quantities of albuminous substance is first followed by great bacterial multiplication and then "speedy and extreme mortality of bacteria." Bacterial self-purification of streams may be attributed mainly to insufficient or unsuitable food-supply.

THE RELATIONS BETWEEN EPILEPSY AND ACUTE INFECTIOUS DISEASES.

It is a matter of common observation that the occurrence of the seizures in an epileptic is inhibited by acute intercurrent, febrile disease, although, on the other hand, it is equally recognized that, in children especially, eclamptic attacks are frequently observed with the onset of acute illnesses. It will not be maintained that the inhibitory influence in the one instance is more than temporary, while, on the other hand, it seems not impossible that both the frequency and the severity of the seizures in a case of epilepsy may be greater after than before the intercurrent disease, and occasionally acute disease appears to be the starting-point of the epilepsy in a predisposed individual. In harmony with the views expressed, is the experience of Clark and Sharp,[1] who report a series of cases of measles and erysipelas in epileptics in which the convulsive disorder was in no instance favorably modified for any great length of time, but, on the contrary, the progress of the disease was, in a few instances, accelerated by the intercurrent disease, and in one the epileptic status was induced, while in those cases in which the epilepsy appeared to be favorably modified the temporary improvement was slight and of short duration. A notion has prevailed in the past, and its influence has not yet entirely disappeared, that inasmuch as all individuals are likely to suffer from the exanthemata at some time in life they had better be exposed in childhood to mild attacks, but it has been shown that not a few remain immune, while at times the anticipated mild attack proved directly or indirectly disastrous. In view, therefore, of the failure of acute disease to exert a permanently favorable influence on epilepsy, and the possibility that such disease may excite the convulsive disorder or aggravate it if already present, it is the part of wisdom to avoid all risk of the infective diseases on the part of epileptics as well as on that of others. It may be set up as an axiom that no form of disease—with the possible exception of vaccinia—can be safely induced for prophylactic or curative purposes.

Medical News.

CALIFORNIA.

Dr. Charles D. Lockwood, Chicago, has moved to Pasadena and has opened an office at Los Angeles.

Dr. Frank H. Payne, Berkeley, was thrown from his buggy on December 27, and sustained a fracture of the thigh.

Dr. J. Ellis Rodney, Chico, who was convicted of perjury, sentenced to serve twelve years in the penitentiary, and who appealed to the supreme court, must serve his time, as the court affirmed the decision.

A hospital, equipped with all modern appliances, will be erected in Ventura by Dr. Cephas L. Bard and his brother, United States Senator Thomas R. Bard, in memory of their mother, Elizabeth Bard. The building will cost about $15,000, and when completed will be presented to the city.

DISTRICT OF COLUMBIA.

The site for the new Municipal Hospital, Washington, which comprises thirty-three acres, has been purchased for $65,000 by the commissioners.

Dr. Walter Reed, surgeon U. S. A., has been detailed as the representative of the medical department of the army at the Pan-American Medical Congress at Havana.

Alterations in the laws of the District are suggested by the District Medical Society to better protect the people of the District against disclosure of confidential information necessarily imparted to their physicians in order to receive proper medical treatment, and to render the general treatment of the office of coroner complete, harmonious and compatible with modern ideas.

ILLINOIS.

Charleston physicians have organized a club for mutual benefit and protection, with Dr. Lemuel L. Silverthorn, president, and Dr. Joseph A. Perkins, secretary.

Dr. Frank Parsons Norbury, who for the past four years has had charge of the medical department of Oak Lawn Sanatorium, Jacksonville, has resigned. Dr. Norbury will soon open under his own control and management, at Jacksonville, an institution for the private care and treatment of diseases of the brain and nervous system.

The commissioners of the Asylum for the Incurable Insane, at Bartonville, near Peoria, recommend in their annual report appropriations aggregating $669,000 from the legislature at its coming session. Of this, $200,000 is to be used for completing the work now under way, $225,000 for the erection of ten more cottages, and $139,000 for other additions to the institution.

Chicago.

By the will of the late Charles Higgins, St. Luke's Hospital will receive a bequest of $10,000.

During the last week 11 new cases of smallpox have been seen by the Health Department officials, in 8 distinct locations. There are now 15 smallpox patients at the Isolation Hospital.

During 1900 the patients of Cook County Hospital numbered 17,429, or 10 per cent. more than in 1899, with a mortality of 1287, or 7.38 per cent. The cost of maintaining the hospital was $268,825.

Dr. W. F. Arnold, U. S. N., of the local naval recruiting depot, has gone to New York to take examination for promotion. Medical Inspector Ezra Z. Derr, Portsmouth, N. H., is attending to Dr. Arnold's duties during his absence.

The Detention Hospital examined 1727 patients during 1900, 770 of whom were sent to the hospital at Dunning, 113 to Elgin, 179 to Kankakee, 346 were discharged, 18 had escaped from the asylum, and 13 died at the hospital.

The health department claims Chicago as pre-eminently the city of good health, and substantiates its claim by statistics. The death-rate per 1000 per annum in New York City was 21; in Greater New York, 20.57; in Brooklyn, 20.11; in Philadelphia, 19.86, and in Chicago, 14.56.

The health commissioner, in his recent report concerning smallpox, says that vaccination, repeated until it will no longer "take," is an absolute protection against smallpox, and nothing else is; and that the modern practice of vaccination, with sterilized vaccin lymph, under simple precautions of cleanliness, is positively harmless.

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[1] Medical News, Dec. 1, 1900, p. 853.

A sharp rise in mortality marked the closing days of 1900. For the week ended December 29, 554 deaths were reported, 74 more than for the week previous and 100 more than in the corresponding week of 1899. There were 122 deaths from pneumonia, 9 from influenza, which is seriously complicating many other maladies; 47 from consumption, and 34 from violence.

On January 7, a society was organized by the faculty of Rush Medical College and will be known as the Medical Society of Rush Medical College. The secretary is Dr. J. B. Herrick, the presiding officer to be selected each evening. The executive committee consists of Drs. Frank Billings, L. Hektoen, J. Clarence Webster, L. F. Barker and the secretary. Meetings will be held monthly.

INDIANA.

The new quarantine hospital at Indianapolis was opened January 7. The building and equipment cost about $15,000.

Lomax Hall is to be the name of the $25,000 addition to the Medical College of Indiana, in honor of Dr. Lomax, of Marion, who donated his estate to the college ten years ago.

The Eastern Indiana Hospital for the Insane at Richmond asks from the legislature an appropriation of $301,000 for the next two years, $62,000 of which is to be used for the erection of two cottages.

IOWA.

Drs. L. W. Littig, of Iowa City, William Jepson, of Sioux City and N. C. Morse, of Eldora, have been appointed by Governor Shaw, as commissioners to represent the state at the Pan-American Congress at Havana.

The office of Dr. E. H. King, Muscatine, was recently burglarized and an emergency grip taken, containing a roll of surgical instruments, Kelly cushion, operating robes, trays, etc. The following night Dr. Olliver's office was entered and swept bare of instruments. Any parties offering second-hand, or other instruments for sale cheap should be regarded with suspicion.

KENTUCKY.

Dr. John L. Evans, Louisville, is critically ill with abscess of the lungs at Spring Hill, Ala.

The residence of Dr. William Bowman, Toleboro, late consul at Tien-Tsin, China, and state representative and senator, was burned December 12.

The suit for damages of $45,000 for criminal assault, filed December 19 against Dr. William Cheatham, has been dismissed. It was apparently an attempt to obtain hush-money from a reputable physician.

The quarantine against Greenup County, which was put in force December 23, was raised two days later, the action of the State Board of Health having roused the delinquent fiscal court to action. On Christmas day it held an extraordinary session and adopted a resolution to pay all legitimate bills for physicians' services, nurses, guards, etc., and telegraphed its decision to the State Board of Health, which thereupon raised the quarantine.

MARYLAND.

Dr. Grafton M. Bosley, Towson, one of the oldest physicians in the state, is seriously ill and has been removed to the Church Home and Infirmary, Baltimore.

Dr. Thomas C. Bussey, Texas, has been appointed physician to the almshouse and Dr. Richard C. Massenburg, Towson, physician to the jail of Baltimore County.

The third annual report of the Peninsula General Hospital, Salisbury, shows that during the year 110 patients were received for treatment, 70 of whom were free patients, and 5 of whom died.

Dr. W. S. Richardson, Williamsport, was assaulted in the Traver Hotel, Downsville, by the proprietor for an alleged insult to his wife, December 24. The Doctor's nose was broken, other injuries inflicted and his condition is critical.

The annex to the Western Maryland Hospital at Cumberland was opened December 28. The expense of this annex was met by the appropriation made last winter of $4000 by the legislature. It consists of a wide corridor connecting it with the main buildings, a large operating room, a sterilizing room, a bathroom, an elevator and four recovery rooms. The operating room is 18x20 feet, is lighted by six windows and by a large skylight. This is the only hospital in Western Maryland and draws from the neighboring parts of Maryland, West Virginia and Pennsylvania.

Baltimore.

Health Commissioner Bosley says that a complete sewerage system and infectious diseases hospital are absolute and urgent necessities for the health of this city, and he will use every effort to secure both. The mayor is backing him heartily.

Dr. Alfred R. Dohme has been appointed lecturer on pharmacy at the Johns Hopkins Medical School. Dr. Dohme is an A.B. of the Johns Hopkins University, and after his graduation went to Germany and there graduated as Doctor of Philosophy.

A board, consisting of Col. John M. T. Finney, chief surgeon, 1st Brigade; Major William H. Crim, surgeon, 5th Infantry, and Major S. S. Ullrich, surgeon, 4th Infantry, met at brigade headquarters December 28 to establish a standard of medical examination for recruits for the organized militia, as required by section 14a, militia laws, acts of 1900. The standard of examination will be modeled after that of the United States army.

The following officers were elected in the national societies recently meeting here: American Psychological Association: Prof. Josiah Royce, president; Dr. Livingston Farrand, secretary. Society for Plant Morphology and Physiology: Dr. Edward F. Smith, president; Profs. F. C. Newcombe and L. M. Underwood, vice-presidents; Prof. W. F. Young, secretary and treasurer. American Morphological Society: Prof. J. S. Kingsley, president; Prof. E. A. Andrews, vice-president; Prof. T. H. Montgomery, Jr., secretary. American Association of Bacteriologists: Prof. William H. Welch, president; Prof. E. O. Jorden, vice-president; Prof. H. W. Conn, secretary and treasurer.

MINNESOTA.

Daily inspection of the Minneapolis public schools is assured, as 75 physicians have volunteered their services to the board of education for this work. From these the requisite number will be appointed.

A St. Paul undertaker has been arraigned in the police court charged with presenting a death certificate to the board of health which had not been signed by the attending physician, Dr. James S. Gilfillan. The certificate bore the doctor's signature, but he claimed to have no knowledge of the matter.

The Winona city council, on December 22, accepted the resignation of Dr. Donald B. Pritchard as a member of the local board of health, and elected Dr. Darwin A. Stewart to fill the unexpired term. A week later Dr. Stewart's resignation was accepted and Dr. Pritchard elected to fill a vacancy in the board.

The new quarantine hospital at Minneapolis, which has just been opened, is said to be the most complete institution of its kind west of New York. It has accommodation for 48 patients, half in wards and half in private rooms, in addition to the building used for the reception of patients and the use of the hospital staff. The hospital has cost about $16,000.

Health Officer Franklin Staples writes: In your Minnesota news of last week's Journal, you notice an epidemic of smallpox at Winona. For the next number of The Journal the revision of the notice should be as follows: Disease decidedly on the decrease. Number of cases reduced is nearly 50 per cent. The disease is of a very mild type, a kind of anomalous smallpox, such as has been prevalent lately in many places and in different parts of the country. Instead of "a few deaths" as erroneously reported, the correct statement is that no deaths have occurred from this cause.

MISSOURI.

Charleston has passed an ordinance prohibiting the sale of cocain and similar drugs.

Free vaccination to all who apply has been volunteered by 12 Kansas City physicians.

Three Chinese "doctors" in Kansas City, Wong Sang, Lee Coon Hung and Wong Hay Shine, have been arrested for practicing medicine without a license. The prosecutions were instituted by the State Board of Health.

The city council of Louisiana, on account of the prevalence of smallpox, has issued a proclamation prohibiting public gatherings of all kinds and closing the public schools. The health officer, Dr. T. Guy Hetherlin, has resigned on account of the lack of heed paid to his warnings and advice, and Dr. Ira Miller, of Ashburn, has been appointed his successor.

"The World's Health Institute and College of Medicine, Surgery and Science" has been incorporated at St. Louis by a homeopathic physician, two laymen and a physician whose name is not to be found in the directory, with a capital of $50,000, to conduct a health institute, a college of medicine, surgery and science, and incidentally to buy, sell and rent real estate.

The St. Joseph Medical Society held a fin de siecle meeting and banquet December 31. About 50 guests were present. Dr. Jacob Geiger presided as toastmaster; Dr. Thomas H. Doyle spoke on "St. Joseph's Pioneers in Medicine"; Dr. Pierre L. Leonard, on "Medicine of the Future"; Dr. John M. Bell reviewed the history of the St. Joseph Medical Society, and Dr. Charles Wood Fassett responded to the toast, "The Medical Press."

MONTANA.

Post-Surgeon Gibson and his wife were injured while driving near Fort Harrison, Helena, December 24. Dr. Gibson was badly bruised and had his shoulder dislocated, and Mrs. Gibson had a dislocation of the elbow.

Dr. Daniel L. Carmichael, Helena, has renewed his contract as physician of Lewis and Clarke County at a salary of $1800 per annum. In consideration of this he agrees to attend the sick at the poor farm, county jail, all sick poor within two miles of the city and all smallpox patients.

The Commissioners of Silver Bow County have adopted a sure way of forfeiting the respect and losing the co-operation of the physicians of the county. In reply to the protest of the county medical association against the lax methods employed in dealing with smallpox, which is epidemic there, the commissioners admit that the sanitary conditions are bad, but charge the physicians with being partially responsible for the prevalence of the disease, in that they have ignored the health laws and treated smallpox patients in secret. About the same time that this reply was being formulated, a request was made to the board to put an infected house in a thickly populated district under quarantine, but the board refused to do so.

NEW MEXICO.

Coal miners are bringing influence to bear to locate the hospital for miners at Gallup. The hospital tax on miners, which began October 1, will amount to $1000 per month.

Dr. Percy G. Cornish, surgeon-in-charge of the Santa Fe Pacific railroad hospital at Albuquerque for the last four years, has resigned and has been succeeded by his assistant, Dr. John M. Elder, whose place will be filled by Dr. Raymond Russ, of Los Angeles, Cal.

The Sanatorium for consumptive seamen at Fort Stanton has been a success thus far. In the first eighteen months of its existence 92 patients were admitted from the various marine hospitals, 12 of whom were discharged as recovered, and 15 as improved. Eleven patients died.

NEW YORK.

The Supervisors of Albany County have elected Drs. Arthur Sautter and Mark S. Lavy, Albany, Edward M. Bell, Cohoes, and Martin S. Reid, Coeymans, coroner's physicians at a salary of $600 a year.

On October 1, 1900, there were 22,088 inmates in the various state hospitals, an increase of 653 over 1899. The average increase has been about the same for the past five or six years. The expenditure per capita was $165.38.

The physicians of Schenectady objected so strenuously to the action of the General Electric Company in securing a physician from Albany to vaccinate the 5000 employees of the company, that the Albany physician asked to be relieved, and a Schenectady physician was employed.

Health Officer Goler, of Rochester, announces that for the past two months there has been, on an average, one new case of rabies in dogs reported each day, and the situation is becoming alarming. Autopsies and laboratory experiments have proved beyond all doubt that it is true rabies.

Cortland is the center of an epidemic of typhoid fever. The city hospital is full of patients and the management is compelled to turn applicants away. Many factories and business houses are crippled because of the illness of the employees. The cause of the epidemic has not yet been determined.

The Chairman of the Senate Committee on Finance held a conference in Buffalo recently with Senator Henry W. Hill and Dr. John H. Pryor, concerning the completion of the state consumption hospital in the Adirondacks. The result of the conference was that the committee will add the item of $200,000 necessary to complete the building, to the annual appropriation bill. The trustees of the hospital have selected a second site for the institution at Raybrook, between Saranac Lake and Lake Placid, and not far from the Lake Clear site, which was first selected.

Governor Odell, in his first message to the state legislature, calls attention to the state board of health, which consists of three commissioners appointed by the governor. The duties are such that one competent man, giving his entire time thereto, he thinks, might easily perform them, provided that the supervision of tuberculosis and glanders in cattle were transferred to the department of agriculture, where it properly belongs, thereby removing the necessity for a large office force at corresponding expense. This change is suggested with a recommendation of affirmation by the legislature.

Buffalo.

Dr. Frederick H. Mills, of this city, has been appointed acting assistant-surgeon in the army, and has been ordered to the Philippines.

Of the thirty physicians in New York whose names appear on the list of those eligible for positions in state institutions, nine reside in Buffalo.

Influenza is prevalent in Buffalo. The disease is characterized by a high range of temperature, and is principally of the respiratory type. Many pupils are prostrated and between fifty and sixty school teachers are unable to attend to their duties. In some instances entire families have been attacked.

New York City.

It is estimated that a million persons have been vaccinated in Greater New York since an epidemic of smallpox threatened.

By the will of the late Henry Villard, Dobbs' Ferry Hospital Association receives a bequest of $50,000, and New York Infirmary for Women and Children, $5000.

The health board has recommended to Commissioner of Charities Keller that a new ward be established at Randall's Island solely for the accommodation of children with contagious diseases.

The report of the committee on the library of the New York Academy of Medicine shows that on Nov. 30, 1900, the library contained 89,000 volumes. During the year, 3649 volumes were added; 971 books and 832 journals were issued to 194 readers. There were registered 11,520 readers during the year.

The extremely high mortality among the infant charges of the city has engaged the attention of the commissioner. The mortality among the children on Randall's Island for 1899 was 45.05 per cent., and for the first nine months of 1900, 46.67 per cent.

A few cases of smallpox continue to develop in widely separated sections of the city. So far, there have been 84 cases in the Borough of Manhattan, 2 in Brooklyn, and 5 in the Bronx, and of this number 3 have terminated fatally. There are now 61 cases isolated on North Brother Island.

OHIO.

Youngstown is to have a new hospital, to cost from $150,000 to $200,000, the entire cost being defrayed by Myron C. Wick and his family.

Dr. Oliver W. Lindsay, Columbus, has resigned as secretary of the Health Department, and taken up his work as coroner of Franklin county.

The Cincinnati Academy of Medicine has presented to Congress a protest against any reduction in the Medical Department of the army, below the other staff corps.

Dr. Albert E. Warren, Youngstown, is reported critically ill at Hot Springs, Ark., the result of an infected wound received during an operation several months before.

The charges against five women and one man in Cincinnati, of unlawfully practicing medicine, have been withdrawn, as the accused have complied with the law, registered with the state board of examination, and have been granted permission to practice.

PENNSYLVANIA.

Lancaster is to have medical inspection of the public-school children.

The trustees of the State Hospital for the Insane at Norristown met January 4, cast 21 ballots without result, for a successor to Dr. Tabor and adjourned till January 18.

An epidemic of typhoid fever prevails at North Bend, near Renovo, where 11 cases have been found. It was discovered that these persons had used water from a spring near which there had been a case of typhoid fever.

Philadelphia.

Dr. Charles S. Turnbull has been appointed major and surgeon of the First Regiment of Pennsylvania.

Through the will of Mrs. Anna Stickler of Camden, N. J., the Methodist Hospital of this city has been left $5000.

A bequest of $15,000 has been made to the Orthopedic Hospital through the will of Ruth Anna Cope, and $1000 was given to the Germantown Hospital.

At a recent meeting of the College of Physicians a life-size oil painting of the late Dr. Joseph Leidy was presented to the college by Mrs. Joseph Leidy, Jr. An autograph letter to Dr. Leidy from Professor T. H. Huxley was also presented to the college. The gifts were received on the part of the college by Dr. S. Weir Mitchell.

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Correspondence.

Foreign Bodies in the Ear.

BINGHAMTON, N. Y., Jan. 5, 1901.

To the Editor:—I write to add my experience in the management of the above cases. A boy was brought to me with a grain of corn in his ear, which had defied all the efforts at removal made by his parents and friends. It had been lodged there for several days. The external ear was swollen to perhaps double its normal size, and the tumefaction of the tissues was such that the auditory canal was nearly closed. Only a small portion of the surface of the grain of corn could be seen. The parts were much inflamed and the tenderness was so acute, that no manipulations or instrumental efforts could be made without an anesthetic. I was, however, able to achieve a most gratifying success by the use of a continuous jet of warm water thrown gently against the ear by a Davidson's syringe, until at last, under these measures the tissues relaxed to such an extent that some of the water ultimately passed behind the kernel of corn, and it was carried out by the returning current.

I have always regarded the use of water poured in the ear as the best mode of removing a live insect. On one occasion during my army service I was called at night to see a soldier into whose ear a hard-shelled beetle had crawled. The insect was so large that its body filled the auditory canal. I seized its outer extremity with a dressing forceps, but they slipped off; the insect's movements made the soldier scream with pain. Close by was the soldier's canteen of water; from it I poured some water into the ear and the invader immediately retreated rear-foremost. J. M. FARRINGTON, M.D.

Goat Lymph.

WESTBORO, Mass., Dec. 24, 1900.

To the Editor: I send herewith a letter recently received which may be interesting to your readers. I thought this communication would inform the medical profession that if there is anything of value in goat-blood serum it can be obtained through regular channels and at a moderate price. By reference to Abbott's "Bacteriology" any physician can prepare his own serum very readily. The expense of a healthy young goat is only about three dollars. W. T. PARKER, M.D.

W. T. Parker, M.D., Westboro:—We have before us your esteemed communication of the 26th inst., advising us to place a goat-blood serum upon the market as a substitute for the goat lymph which is being so extensively advertised as a remedy for chronic diseases. In reply we beg to say that while we do not mention in our catalogue a serum of this kind, we are prepared to supply it upon special requisition, at the rate of $1 per bulb of 10 c.c., or $2.75 per ounce. The serum has been available to the medical profession about a year now; and while we do not make any therapeutic claims in its behalf we think it probable that it will accomplish as much as the lymph to which you refer. We do not consider this a very extravagant claim, for the reason that we have little or no faith in the virtues of the "lymph." Physicians who are interested in experiments on the goat as a therapeutic resource, will find our serum suited to their purpose, at least for a time; they will have the satisfaction of knowing what they are using, as the preparation can be duplicated by any competent biologist who has a healthy goat in his possession. . . . Thanking you sincerely for your suggestion and offer of assistance, and trusting that if you decide to experiment with goat serum you will specify our product and obtain results worthy of publication, we remain, with best regards, very truly yours,

PARKE, DAVIS & CO.

Higher Medical Education and the State University of Iowa.

IOWA CITY, Jan. 7, 1901.

To the Editor:—Knowing your efforts for the advancement of medical education, I believe that you will be interested in hearing that the faculty of the College of Medicine of the State University of Iowa has decided to extend the course to four years of nine months each, the length of the session to be thirty-eight weeks, or thirty-six weeks exclusive of vacations. Last year the Board of Regents granted permission to make such a change in 1902, but by a unanimous vote the medical faculty requested that it might go into effect a year earlier. It has not been the experience of the faculty that an increase in work is followed by a decrease in attendance, as the places of such students as are frightened away are filled by the more desirable material which goes, not where a diploma is the easiest to be obtained, but where the fullest instruction appears to be offered; nevertheless the opinion fully prevails that quality is preferable to quantity and that the college must be kept among the leaders even if the enrollment suffers. The requirements for admission have for some time been the same as for entrance to the College of Liberal Arts of the University, and all preliminary examinations are conducted by the University Examiner, whose certificate alone can give admission. Yours very truly, E. W. ROCKWOOD, M.D.

Association News.

Proposed Legislation Affecting Medical Corps of the U. S. Army.

To the Members of the AMERICAN MEDICAL ASSOCIATION: Your attention is called to the fact that there is at present pending in Congress certain proposed legislation that seriously disturbs the present status and efficiency of the medical corps of the United States army.

The proposed law is entitled: "An Act to Increase the Efficiency of the Military Establishment of the United States" —Senate Bill 4300—and in a general way modifies the existing organization of the army, while at the same time it provides for a damaging and offensively invidious discrimination against

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Foreign Bodies in the Ear.

Binghamton, N. Y., Jan. 5, 1901.

To the Editor:—I write to add my experience in the management of the above cases. A boy was brought to me with a grain of corn in his ear, which had defied all the efforts at removal made by his parents and friends. It had been lodged there for several days. The external ear was swollen to perhaps double its normal size, and the tumefaction of the tissues was such that the auditory canal was nearly closed. Only a small portion of the surface of the grain of corn could be seen. The parts were much inflamed and the tenderness was so acute, that no manipulations or instrumental efforts could be made without an anesthetic. I was, however, able to achieve a most gratifying success by the use of a continuous jet of warm water thrown gently against the ear by a Davidson's syringe, until at last, under these measures the tissues relaxed to such an extent that some of the water ultimately passed behind the kernel of corn, and it was carried out by the returning current.

I have always regarded the use of water poured in the ear as the best mode of removing a live insect. On one occasion during my army service I was called at night to see a soldier into whose ear a hard-shelled beetle had crawled. The insect was so large that its body filled the auditory canal. I seized its outer extremity with a dressing forceps, but they slipped off; the insect's movements made the soldier scream with pain. Close by was the soldier's canteen of water; from it I poured some water into the ear and the invader immediately retreated rear-foremost. J. M. Farrington, M.D.

Goat Lymph.

Westboro, Mass., Dec. 24, 1900.

To the Editor: I send herewith a letter recently received which may be interesting to your readers. I thought this communication would inform the medical profession that if there is anything of value in goat-blood serum it can be obtained through regular channels and at a moderate price. By reference to Abbott's "Bacteriology" any physician can prepare his own serum very readily. The expense of a healthy young goat is only about three dollars. W. T. Parker, M.D.

W. T. Parker, M.D., Westboro:—We have before us your esteemed communication of the 26th inst., advising us to place a goat-blood serum upon the market as a substitute for the goat lymph which is being so extensively advertised as a remedy for chronic diseases. In reply we beg to say that while we do not mention in our catalogue a serum of this kind, we are prepared to supply it upon special requisition, at the rate of $1 per bulb of 10 c.c., or $2.75 per ounce. The serum has been available to the medical profession about a year now; and while we do not make any therapeutic claims in its behalf we think it probable that it will accomplish as much as the lymph to which you refer. We do not consider this a very extravagant claim, for the reason that we have little or no faith in the virtues of the "lymph." Physicians who are interested in experiments on the goat as a therapeutic resource, will find our serum suited to their purpose, at least for a time; they will have the satisfaction of knowing what they are using, as the preparation can be duplicated by any competent biologist who has a healthy goat in his possession. . . . Thanking you sincerely for your suggestion and offer of assistance, and trusting that if you decide to experiment with goat serum you will specify our product and obtain results worthy of publication, we remain, with best regards, very truly yours,

Parke, Davis & Co.

Higher Medical Education and the State University of Iowa.

Iowa City, Jan. 7, 1901.

To the Editor:—Knowing your efforts for the advancement of medical education, I believe that you will be interested in hearing that the faculty of the College of Medicine of the State University of Iowa has decided to extend the course to four years of nine months each, the length of the session to be thirty-eight weeks, or thirty-six weeks exclusive of vacations. Last year the Board of Regents granted permission to make such a change in 1902, but by a unanimous vote the medical faculty requested that it might go into effect a year earlier. It has not been the experience of the faculty that an increase in work is followed by a decrease in attendance, as the places of such students as are frightened away are filled by the more desirable material which goes, not where a diploma is the easiest to be obtained, but where the fullest instruction appears to be offered; nevertheless the opinion fully prevails that quality is preferable to quantity and that the college must be kept among the leaders even if the enrollment suffers. The requirements for admission have for some time been the same as for entrance to the College of Liberal Arts of the University, and all preliminary examinations are conducted by the University Examiner, whose certificate alone can give admission.

Yours very truly, E. W. Rockwood, M.D.

Association News.

Proposed Legislation Affecting Medical Corps of the U. S. Army.

To the Members of the American Medical Association: Your attention is called to the fact that there is at present pending in Congress certain proposed legislation that seriously disturbs the present status and efficiency of the medical corps of the United States army.

The proposed law is entitled: "An Act to Increase the Efficiency of the Military Establishment of the United States" —Senate Bill 4300—and in a general way modifies the existing organization of the army, while at the same time it provides for a damaging and offensively invidious discrimination against the medical corps. This fact is shown in the following particulars, viz:

1. It decreases the percentage composition of the corps in the grades of colonel from 3.1 per cent. to 2.4 per cent.
2. It changes the percentage composition of the corps in the grade of lieutenant-colonel from 5.2 to 5.7 per cent.
3. It decreases the percentage of composition of the corps in the grade of major from 26 per cent. to 18.6 per cent.
4. It increases the percentage composition of the corps in the grade of assistant-surgeon with the ranks of captain and first lieutenant from 65 per cent. to 74.7 per cent.

The significance of these proposed changes can be understood when it is remembered that even under the existing law it requires more than eighteen years to reach the grade of surgeon with the rank of major, while under the proposed law it will require at least twenty-five years to reach the same grade and rank. With this fact reduced to a mathematical demonstration, the inevitable result will be: 1, that the more worthy young men will not apply for commission, and 2, that the relatively less worthy men who do enter the service, discouraged by the certain impossibility of reasonably prompt promotion, will resign, leaving their places to be filled by untrained and consequently less efficient men. The ultimate disaster from this contemplated change, however, will consist not alone in a lowered status of the medical service, but in 1, increased disease and death-rate among the men, 2, a diminished and otherwise weakened force on the firing line, and 3, a material augmentation of the pension roll.

In view of the foregoing facts, and in view of the fact that every other corps of the army is better graded than is the medical, every member of the American Medical Association and every member of the medical profession is hereby earnestly solicited to send at once to his United States senator and congressman an urgent and emphatic protest against provisions in Senate Bill 4300, relative to the medical corps of the United States army. [Signed] Chas. A. L. Reed,

President of the American Medical Association.

Cincinnati, Dec. 29, 1900.

New Members.

The following is a list of new members of the A. M. A. *for December, 1900:*

ALABAMA.

Hixon, Frank P., Perote.
Lewis, C. Morris, Birmingham.
Bennett, Benj. F., Louisville.
Stovall, Andrew McA., Jasper.

ARIZONA.

Claypool, S. Barclay, Globe.

ARKANSAS.

Canfield, Herbert H., Siloam Springs.
Hankison, O. C., Pine Bluff.
Ellis, G. S., Helena.

CONNECTICUT.

Crossfield, Frederick S., Hartford.
Dickerman, Wilton E., Hartford.
Bunce, Philip D., Hartford.
McKee, Robt. S., New Haven.

CALIFORNIA.

Vogel, C. W., San Francisco.
Dial, E. A., San Luis Obispo.
Colliver, John A., San Francisco.

COLORADO.

Grissom, Eugene, Pueblo.

FLORIDA.

Mitchell, Neal, Jacksonville.

DISTRICT OF COLUMBIA.

Savage, L. S., Benning.
Dowling, Thos., Washington.

GEORGIA.

Coile, Frank W., Winterville.
Eberhardt, L. Pope, Elberton.

ILLINOIS.

Archer, I. J., Chicago.
Freer, Otto P., Chicago.
Jacobs, John M., Chicago.
Lacy, Hattie E., Chicago.
Kunz, Sylvan, Chicago.
Strueh, Carl, Chicago.
Knoblauch, Jos. I., Metamora.
Smith, J. W., Chicago.
Sargent, Edw. E., LeRoy.
DeSilva, Jos., Rock Island.
Adams, W. W., Atkinson.
Douglass, W. W., Hillsboro.
Lovell, Frank B., Gibson City.
Miller, Andrew D., Sullivan.
Markley, P. L., Rockford.

IOWA.

Dyer, Benj. G., Gilbert Sta.
Fuller, Q. C., Milford.
Cleaves, J. H., Council Bluffs.
Carpenter, M. C., Fairfield.
Derwent, Albert E., Lamoni.
Harrison, E. W., Winfield.
Garver, John E., Storm Lake.
Cook, Clarence P., Otley.
Wedel, J. R., Vincennes.
Williams, Cora B., Marshalltown.
Grimes, W. S., Wapello.
Stoner, A P., Des Moines.
Engle ,Theo., State Center.
Kincard, Geo. E., Muscatine.

INDIAN TERRITORY.

Reeder, C. L., Tulsa.

IDAHO.

Loder, Wm. F., Salubria.

INDIANA.

Stout, O. L., Upland.
Davidson, J. F., Crawfordsville
Butterworth, Chas . M., South Bend.
Ferguson, Frank C., Indianapolis.
Sharrer, H. E., Hammond.

KANSAS.

Schenberger, S. W., Industry.
Meade, R. H., Great Bend.

KENTUCKY.

Robbins, Felicia V., Olive Hill.

LOUISIANA.

Thornhill, Francis M., Arcadia.
Lawton, W. B., Mira, Caddo Par*ish.*

MARYLAND.

Broadup, G. L., Cumberland.
Micheau, Ellis, Baltimore.
Fisher, S. G., Pt. Deposit.

MASSACHUSETTS.

Walker, Augustus C., Greenfield.
Shores, Harvey T., Northampton.
Nicolla, C. C., So. Lancaster.
McNair, R. H., Longmeadow.
Tallman, A. L., East Boston.
Houston, J. A., Northampton.
Jackson, Henry, Boston.
Elmere, J. Alfred, Boston.
Hewitt, C. E., Springfield.
Dolan, Wm. A., Fall River.
Meigs, J. V., Lowell.
Bowditch, Vincent Y., Boston.
Twombly, Edw. L., Boston.
Whitmore, Albert S., Suffolk.
Howland, Joseph B., Tewkesbury.
Abbe, Frederick R., Dorchester, Boston.
Porter, Chas. A., Boston.
McCollom, John H., Boston.
Daly, Timothy J., Lawrence.
Cahill, J. T., Lawrence

MICHIGAN.

Jones, Bernard W., Vulcan.
Jenks, Nathan, Detroit.
Conner, Samuel E., Port Huron.

MINNESOTA.

Chambers, Carlos L., Kasson.
Lum, Clarence E., Duluth.
Sullivan, M., Adrian.
Helberg, Adolph O., Rushford.
James, John H., Mankato.
Swartz, W. J., Minneapolis.
Knickerbocker, Frank H., Staples.
Hill, Arthur L., Monticello.
Burnside, Foster, St. Paul.
Workman, H. E., Tracy.

MISSISSIPPI.

Wissinger, W. S., Hernando.
Robertson, Wm. W., McComb City.
Thomason, J. W., Arkabutha.

MISSOURI.

Underhill, W. W., St. Louis.
Chowning, Thos., Hannibal.
Cole, R. King, Sedalia.

NEBRASKA.

Hoover, Jonas, Bennet.

NEVADA.

Mangan, Patrick J., Cortez.

NEW HAMPSHIRE.

Williamson, W. D., Gorham.
Axtell, John F., Newton.
Cain, Wm. G., Epping.

NEW JERSEY.

Brouwer, Frank, Toms River.

NEW YORK.

Moore, Richard M., Rochester.
Seifert, Carl F., New York City.
Brannan, John W., New York City.
Pederson, V. C., New York City.
Fuller, Eugene, New York City.
Murray, Francis W., New York City.
McGinnis, E. L'H., New York City.
LeBoutillier, W. G., New York City.
Butts, H. H., New York City.
Foote, S. K., New York City.
Lambert, Alex., New York City.
Hofheimer, J. A., New York City.
Wallin, Mathilda K., New York City.
Beaudoin-Bennett, Mortimer R., New York City.
Robinson, Wm. J., New York City.
Zwisohn, L. W., New York City.
Gulick, Luther, New York City.
Dennis, Frederic S., New York City.
Harvie, John B., Troy.
Kinnear, Beverley, O., Clifton Springs.
Dwyer, John, New York City.
Sheehan, Daniel J., New York City.
Siefort, Carl F., New York City.

NORTH CAROLINA.

Egerton, Jas. L., Hendersonville.
Purefoy, G. W., Asheville.

NORTH DAKOTA.

Bacharach, Harvey, Finley.

OHIO.

Bliss, T. F., Springfield.
McCoy, Jos. J., Steubenville.
Slagle, Chas. D., Centerville.
Pontius, Maria G., Canton.

PENNSYLVANIA.

Read, A. H., Norristown.
Seiple, W. G. M., Lehighton.
Summerville, H. B., Rimersburg.
Hutchinson, H. A., Dixmont.
Disque, T. L., Pittsburg.
Johnston, Jas., Bradford.
Rocap, Wm. A., Olney, Philadelphia.
Stein, Charles J., Pittsburg.
Rice, Daniel S., Hastings.
Burkhart, E. J., Johnstown.
Shank, O. J., Windber.
Carlisle, H. L., Windber.
Alter, Jos. G., New Kensington.
Kelso, J. S., Woodland.
Hunter, W. L., Turtle Creek.
Shupe, M. B., Connellsville.
Armstrong, Wm. J., Kane.
Noeson, F. T., Bear Lake.
Thompson, Benjamin, Landenberg.
Hall, George B., Cartwright.
Bower, Ernest Z., Scranton.
Price, B. Frank, Braddock.
Feldt, W. W., Williamstown.
Bilheimer, John J., Priceburg.
Brown, John W., *Pittsburg.*
Staller, Max, Philadelphia.
Essig, Chas. J., Philadelphia.
Wilson, Richard, Philadelphia.

RHODE ISLAND.

Akers, J. H., Providence.
Jewett, Fred B., Howard.
Morrison, Wm. F., Providence.

SOUTH DAKOTA.

Tufts, Arthur H., Sioux Falls.

TENNESSEE.

Francis, Elmer E., Memphis.
Reeve, Nathan H., Bristol.

TEXAS.

Zvesper, John S., Ammannsville.
Shell, W. T., Corsicana.

VERMONT.

McSweeney, Patrick E., Burlington.
Maynard, Samuel E., Burlington.

VIRGINIA.

Hancock, F. H., Pinners Point.
Rucker, E. T., Manchester.
Starkweather, C. L., Occoquan.
Cooke, Geo. W., Danville.

WISCONSIN.

Hedback, Azel E., Barron.
Nott, Geo. W., Racine.
White, Adam G., Milwaukee.
Stevens, Frank E., Bristol:
Hebard, Chas., Mondovi.

Marriages.

J. George Dempsey, M.D., to Miss Le Besque, both of New Orleans, December 12.

Harry R. Spickerman, M.D., to Miss Fay Ogle, both of Muncie, Ind., December 25.

Dulania S. Wiggins, M.D., Losantville, Ind., to Miss Koons, Moreland, Ind., December 24.

J. N. Poer, M.D., West Point, Ga., to Miss May Belle Bonnell, Oxford. Ga., January 2.

John W. Maguire, M.D., to Mrs. Bianca St. John, both of Hutchinson, Kas., December 24.

R. Percy Smith, M.D., Baltimore, Md., to Miss Martha E. Elliott, Towson, Md., January 8.

Frank Rogers Rich, M.D., to Miss Francis Louise Yellott, both of Towson, Md., January 1.

Sanders L. Swygert, M.D., Phoenix, S. C., to Miss Myrtis Wells, of Greenwood, S.C., December 20.

Augustus Jerome Thomas, M.D., to Miss Edith Lee Diamond, both of New Orleans, December 19.

William W. Whitney, M.D., Union, N. Y., to Miss Bertha L. Robinson, of Binghamton, December 27.

B. W. Toothaker, M.D., Westmoreland, Kas., to Miss Esther A. Schroer, of St. Joseph, Mo., December 26.

William J. Hodges, M.D., to Miss Helen Asher, both of Pineville, Ky., at Jellico, Tenn., December 28.

William Ivan Senkler, M.D., Vancouver, B.C., to Miss Leila Mackay, of Toronto, Ont., December 19.

R. B. Layman, M.D., South Knoxville, Tenn., to Miss Margaret Pitner, Trundle's Cross Roads, Sevier county, Tenn., December 25.

Deaths and Obituaries.

Louis Schneider, M.D., Kentucky School of Medicine, Louisville, 1865, a prominent physician of Williamsport, Pa., president of the Lycoming county medical society in 1888, at his home, from pneumonia, December 29, aged 56.

William H. Behle, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1881, a member of The American Medical Association, from blood-poisoning, December 28, at his home in Salt Lake City, Utah, aged 52.

Augustine R. Booth, M.D., University of Louisville, 1874, surgeon in the United States Marine-Hospital Service, at Shreveport, La., after a lingering illness, December 27, aged 56.

Alpharis E. Rundell, M.D., Medical College of Evansville, Ind., 1874, formerly of Center Point, at his home in Brazil, Ind., from Bright's disease, December 28, aged 50.

John DeLamater, M. D., Castleton Medical College, Castleton, Vt., for many years a practitioner at Brooklyn, Mich., suddenly, at Jackson, Mich., December 30, aged 80.

B. Richards, M.D., Jefferson Medical College, Philadelphia, 1850, at his home "Tuckoman," King William County, Va., from cancer of the face, December 25, aged 78.

Mortimer L. Sleeper, M.D., Dartmouth Medical College, Hanover, N. H., 1876, at his home, West Burke, Vt., from diabetes mellitus, December 24, aged 48.

William A. Palmer, M.D., St. Louis College of Physicians and Surgeons, 1879, after a protracted illness at his home in Russell, Iowa, December 20, aged 50.

William Duncan, M.D., Savannah Medical College, 1861, a member of The American Medical Association, at his residence, Savannah, Ga., December 27.

William C. Jones, M.D., Bellevue Hospital Medical College, New York, 1870, at his home in Grass Valley, Cal., from paralysis, December 28, aged 67.

A. B. Denison, M.D., Starling Medical College, Columbus, *Ohio*, 1867, of Shauck, Morrow County, Ohio, December 28, after a long illness, aged 63.

Samuel W. Collins, M.D., University College of Medicine, Richmond, Va., 1898, of Varina, Va., suddenly from heart disease, December 26, aged 30.

Joseph W. Pugh, M.D., Kentucky School of Medicine, Louisville, 1880, at his home in Alexandria, Ind., after a long illness, December 28.

Byron B. Loughead, M.D., Western Reserve University, Cleveland, *Ohio*, *1877*, at his home, Ravenna, Ohio, December 25, aged 53.

Isaac Mayfield, M.D., Medical College of Ohio, Cincinnati, 1870, at his home, Randolph, Kas., from paralysis, December 25, aged 86.

John Whittaker, M.D., Washington University, St. Louis, 1862, at his home, Camden, Ohio, from paralysis, December 24, aged 73.

Charles McKillen, M.D., Medical College of Indiana, Indianapolis, 1873, from apoplexy, at his home in Camden, Mich., aged 51.

Harvey H. Buhrman, M.D., University of Maryland, 1862, at Foxville, Frederick County, Md., January 2, aged 61.

Charles Carroll, M.D., Memphis University Medical College, 1889, at his home, Riverside, Texas, December 27.

Thomas O. Walton, M.D., New York University, 1862, at Annapolis, Md., suddenly, December 21.

Hiram C. Cure, M.D., for 40 years a practitioner at Martinsville, Ind., December 30.

Book Notices.

Bacteriology and Surgical Technique for Nurses. By Emily A. M. Stoney, Superintendent of the Training School for Nurses, St. Anthony's Hospital, Rock Island, Ill. Illustrated. Cloth; pp. 190. Price, $1.25. Philadelphia and London: W. B. Saunders & Co. 1900.

The modern nurse is a product of modern medicine. She, or occasionally he, is a necessity of the conditions produced by the present methods of scientific and humane management of the sick and suffering. The modern nurse, if she be successful, must be an intelligent being, not an automaton or a machine to go mechanically through certain routine duties. She should not only know how, but also why, she does certain things, so that she can do them intelligently. This book is intended to teach the nurse the reason why, so that she may know how, to enter into the details of the scientific nursing of surgical cases. The first chapter on History of Bacteriology places before the reader in a simple manner an account of the growth of the science of bacteriology from its beginning. Following this are chapters on Bacteria as a Cause of Disease, in which the various bacteria of importance and their nature are considered; the Theory of Antitoxins; Antiseptics, Disinfectants and Deodorants, in which are described the various germicidal agents, their nature, uses, etc. In the second part are considered the care of the operating-room, sterilization, care of instruments, keeping of charts, anesthetics, surgical dressings, use of the thermocautery, manner of making saline infusions, etc., preparation and care of sutures, ligatures, drainage-tubes, etc., complications following operations, and their management. In fact, all that a surgical nurse, as such, ought to know is discussed in a sensible manner, the author keeping in mind the fact that she is writing for the nurse, not for the operating surgeon. The book is to be commended.

Modern Surgery, General and Operative. By John Chalmers Da Costa, M.D., Professor of Principles of Surgery and of Clinical Surgery, Jefferson Medical College. With 493 Illustrations. Third Edition, Revised and Enlarged. Cloth; pp. 1117. Price, $5.00 net. Philadelphia and London: W. B. Saunders & Co. 1900.

In this edition Da Costa has brought his well-known work thoroughly up to date, making it, as its name indicates, a "modern" surgery. The general plan of former editions has been retained.

A Reference Handbook of the Medical Sciences. Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition. Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume I. Illustrated by Numerous Chromolithographs and 498 fine Half-Tone and Wood Engravings. Cloth. Pp. 799. Price, $7.00. New York: Wm. Wood & Co. 1900.

The "Reference Hand-Book of the Medical Sciences," one of the great encyclopedic works on medicine, is being revised, and the first volume of the new edition is before us. The first volume of the original work was issued in the fall of 1885, and the last in 1887, thirteen years ago. To bring out a revised edition of such a work is no small undertaking, but if it is to continue to fill the place it occupied, the re-writing of the book is necessary. The changes and the advancement of the last decade and a half have made the greater part of the work obsolete. Comparing the first volume of the new with the first volume of the old, one realizes that most of the matter has been re-written. While occasionally the same article is reproduced, this is exceptional, and not only is the new rewritten, but, as a rule, by a different author. The changes that have taken place in medicine in the short fifteen years the medical corps. This fact is shown in the following particulars, viz:

1. It decreases the percentage composition of the corps in the grades of colonel from 3.1 per cent. to 2.4 per cent.
2. It changes the percentage composition of the corps in the grade of lieutenant-colonel from 5.2 to 5.7 per cent.
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The significance of these proposed changes can be understood when it is remembered that even under the existing law it requires more than eighteen years to reach the grade of surgeon with the rank of major, while under the proposed law it will require at least twenty-five years to reach the same grade and rank. With this fact reduced to a mathematical demonstration, the inevitable result will be: 1, that the more worthy young men will not apply for commission, and 2, that the relatively less worthy men who do enter the service, discouraged by the certain impossibility of reasonably prompt promotion, will resign, leaving their places to be filled by untrained and consequently less efficient men. The ultimate disaster from this contemplated change, however, will consist not alone in a lowered status of the medical service, but in 1, increased disease and death-rate among the men, 2, a diminished and otherwise weakened force on the firing line, and 3, a material augmentation of the pension roll.

In view of the foregoing facts, and in view of the fact that every other corps of the army is better graded than is the medical, every member of the American Medical Association and every member of the medical profession is hereby earnestly solicited to send at once to his United States senator and congressman an urgent and emphatic protest against provisions in Senate Bill 4300, relative to the medical corps of the United States army. [Signed] Chas. A. L. Reed,

President of the American Medical Association.

Cincinnati, Dec. 29, 1900.

New Members.

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Hankison, O. C., Pine Bluff.
Ellis, G. S., Helena.

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Dickerman, Wilton E., Hartford.
Bunce, Philip D., Hartford.
McKee, Robt. S., New Haven.

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Dial, E. A., San Luis Obispo.
Colliver, John A., San Francisco.

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Grissom, Eugene, Pueblo.

FLORIDA.

Mitchell, Neal, Jacksonville.

DISTRICT OF COLUMBIA.

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Dowling, Thos., Washington.

GEORGIA.

Coile, Frank W., Winterville.
Eberhardt, L. Pope, Elberton.

ILLINOIS.

Archer, I. J., Chicago.
Freer, Otto P., Chicago.
Jacobs, John M., Chicago.
Lacy, Hattie E., Chicago.
Kunz, Sylvan, Chicago.
Strueh, Carl, Chicago.
Knoblauch, Jos. I., Metamora.
Smith, J. W., Chicago.
Sargent, Edw. E., LeRoy.
DeSilva, Jos., Rock Island.
Adams, W. W., Atkinson.
Douglass, W. W., Hillsboro.
Lovell, Frank B., Gibson City.
Miller, Andrew D., Sullivan.
Markley, P. L., Rockford.

IOWA.

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Cleaves, J. H., Council Bluffs.
Carpenter, M. C., Fairfield.
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Harrison, E. W., Winfield.
Garver, John E., Storm Lake.
Cook, Clarence P., Otley.
Wedel, J. R., Vincennes.
Williams, Cora B., Marshalltown.
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Engle ,Theo.; State Center.
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Reeder, C. L., Tulsa.

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Sharrer, H. E., Hammond.

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Schenberger, S. W., Industry.
Meade, R. H., Great Bend.

KENTUCKY.

Robbins, Felicia V., Olive Hill.

LOUISIANA.

Thornhill, Francis M., Arcadia.
Lawton, W. B., Mira, Caddo Parish.

MARYLAND.

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McNair, R. H., Longmeadow.
Tallman, A. L., East Boston.
Houston, J. A., Northampton.
Jackson, Henry, Boston.
Elmere, J. Alfred, Boston.
Hewitt, C. E., Springfield.
Dolan, Wm. A., Fall River.
Meigs, J. V., Lowell.
Bowditch, Vincent Y., Boston.
Twombly, Edw. L., Boston.
Whitmore, Albert S., Suffolk.
Howland, Joseph B., Tewkesbury.
Abbe, Frederick R., Dorchester, Boston.
Porter, Chas. A., Boston.
McCollom, John H., Boston.
Daly, Timothy J., Lawrence.
Cahill, J. T., Lawrence

MICHIGAN.

Jones, Bernard W., Vulcan.
Jenks, Nathan, Detroit.
Conner, Samuel E., Port Huron.

MINNESOTA.

Chambers, Carlos L., Kasson.
Lum, Clarence E., Duluth.
Sullivan, M., Adrian.
Heiberg, Adolph O., Rushford.
James, John H., Mankato.
Swartz, W. J., Minneapolis.
Knickerbocker, Frank H., Staples.
Hill, Arthur L., Monticello.
Burnside, Foster, St. Paul.
Workman, H. E., Tracy.

MISSISSIPPI.

Wissinger, W. S., Hernando.
Robertson, Wm. W., McComb City.
Thomason, J. W., Arkabutha.

MISSOURI.

Underhill, W. W., St. Louis.
Chowning, Thos., Hannibal.
Cole, R. King, Sedalia.

NEBRASKA.

Hoover, Jonas, Bennet.

NEVADA.

Mangan, Patrick J., Cortez.

NEW HAMPSHIRE.

Williamson, W. D., Gorham.
Axtell, John F., Newton.
Cain, Wm. G., Epping.

NEW JERSEY.

Brouwer, Frank, Toms River.

NEW YORK.

Moore, Richard M., Rochester.
Seifert, Carl F., New York City.
Brannan, John W., New York City.
Pederson, V. C., New York City.
Fuller, Eugene, New York City.
Murray, Francis W., New York City.
McGinnis, E. L'H., New York City.
LeBoutillier, W. G., New York City.
Butts, H. H., New York City.
Foote, S. K., New York City.
Lambert, Alex., New York City.
Hofheimer, J. A., New York City.
Wallin, Mathilda K., New York City.
Beaudoin-Bennett, Mortimer R., New York City.
Robinson, Wm. J., New York City.
Zwisohn, L. W., New York City.
Gulick, Luther, New York City.
Dennis, Frederic S., New York City.
Harvie, John B., Troy.
Kinnear, Beverley, O., Clifton Springs.
Dwyer, John, New York City.
Sheehan, Daniel J., New York City.
Siefort, Carl F., New York City.

NORTH CAROLINA.

Egerton, Jas. L., Hendersonville.
Purefoy, G. W., Asheville.

NORTH DAKOTA.

Bacharach, Harvey, Finley.

OHIO.

Bliss, T. F., Springfield.
McCoy, Jos. J., Steubenville.
Slagle, Chas. D., Centerville.
Pontius, Maria G., Canton.

PENNSYLVANIA.

Read, A. H., Norristown.
Seiple, W. G. M., Lehighton.
Summerville, H. B., Rimersburg.
Hutchinson, H. A., Dixmont.
Disque, T. L., Pittsburg.
Johnston, Jas., Bradford.
Rocap, Wm. A., Olney, Philadelphia.
Stein, Charles J., Pittsburg.
Rice, Daniel S., Hastings.
Burkhart, E. J., Johnstown.
Shank, O. J., Windber.
Carlisle, H. L., Windber.
Alter, Jos. G., New Kensington.
Kelso, J. S., Woodland.
Hunter, W. L., Turtle Creek.
Shupe, M. B., Connellsville.
Armstrong, Wm. J., Kane.
Noeson, F. T., Bear Lake.
Thompson, Benjamin, Landenberg.
Hall, George B., Cartwright.
Bower, Ernest Z., Scranton.
Price, B. Frank, Braddock.
Feidt, W. W., Williamstown.
Bilheimer, John J., Priceburg.
Brown, John W., Pittsburg.
Staller, Max, Philadelphia.
Essig, Chas. J., Philadelphia.
Wilson, Richard, Philadelphia.

RHODE ISLAND.

Akers, J. H., Providence.
Jewett, Fred B., Howard.
Morrison, Wm. F., Providence.

SOUTH DAKOTA.

Tufts, Arthur H., Sioux Falls.

TENNESSEE.

Francis, Elmer E., Memphis.
Reeve, Nathan H., Bristol.

TEXAS.

Zvesper, John S., Ammannsville.
Shell, W. T., Corsicana.

VERMONT.

McSweeney, Patrick E., Burlington.
Maynard, Samuel E., Burlington.

VIRGINIA.

Hancock, F. H., Pinners Point.
Rucker, E. T., Manchester.
Starkweather, C. L., Occoquan.
Cooke, Geo. W., Danville.

WISCONSIN.

Hedback, Azel E., Barron.
Nott, Geo. W., Racine.
White, Adam G., Milwaukee.
Stevens, Frank E., Bristol.
Hebard, Chas., Mondovi.

Marriages.

J. George Dempsey, M.D., to Miss Le Besque, both of New Orleans, December 12.

Harry R. Spickerman, M.D., to Miss Fay Ogle, both of Muncie, Ind., December 25.

Dulania S. Wiggins, M.D., Losantville, Ind., to Miss Koons, Moreland, Ind., December 24.

J. N. Poer, M.D., West Point, Ga., to Miss May Belle Bonnell, Oxford, Ga., January 2.

John W. Maguire, M.D., to Mrs. Bianca St. John, both of Hutchinson, Kas., December 24.

R. Percy Smith, M.D., Baltimore, Md., to Miss Martha E. Elliott, Towson, Md., January 8.

Frank Rogers Rich, M.D., to Miss Francis Louise Yellott, both of Towson, Md., January 1.

Sanders L. Swygert, M.D., Phoenix, S. C., to Miss Myrtis Wells, of Greenwood, S.C., December 20.

Augustus Jerome Thomas, M.D., to Miss Edith Lee Diamond, both of New Orleans, December 19.

William W. Whitney, M.D., Union, N. Y., to Miss Bertha L. Robinson, of Binghamton, December 27.

B. W. Toothaker, M.D., Westmoreland, Kas., to Miss Esther A. Schroer, of St. Joseph, Mo., December 26.

William J. Hodges, M.D., to Miss Helen Asher, both of Pineville, Ky., at Jellico, Tenn., December 28.

William Ivan Senkler, M.D., Vancouver, B.C., to Miss Leila Mackay, of Toronto, Ont., December 19.

R. B. Layman, M.D., South Knoxville, Tenn., to Miss Margaret Pitner, Trundle's Cross Roads, Sevier county, Tenn., December 25.

Deaths and Obituaries.

Louis Schneider, M.D., Kentucky School of Medicine, Louisville, 1865, a prominent physician of Williamsport, Pa., president of the Lycoming county medical society in 1888, at his home, from pneumonia, December 29, aged 56.

William H. Behle, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1881, a member of The American Medical Association, from blood-poisoning, December 28, at his home in Salt Lake City, Utah, aged 52.

Augustine R. Booth, M.D., University of Louisville, 1874, surgeon in the United States Marine-Hospital Service, at Shreveport, La., after a lingering illness, December 27, aged 56.

Alpharis E. Rundell, M.D., Medical College of Evansville, Ind., 1874, formerly of Center Point, at his home in Brazil, Ind., from Bright's disease, December 28, aged 50.

John DeLamater, M. D., Castleton Medical College, Castleton, Vt., for many years a practitioner at Brooklyn, Mich., suddenly, at Jackson, Mich., December 30, aged 80.

B. Richards, M.D., Jefferson Medical College, Philadelphia, 1850, at his home "Tuckoman," King William County, Va., from cancer of the face, December 25, aged 78.

Mortimer L. Sleeper, M.D., Dartmouth Medical College, Hanover, N. H., 1876, at his home, West Burke, Vt., from diabetes mellitus, December 24, aged 48.

William A. Palmer, M.D., St. Louis College of Physicians and Surgeons, 1879, after a protracted illness at his home in Russell, Iowa, December 20, aged 50.

William Duncan, M.D., Savannah Medical College, 1861, a member of The American Medical Association, at his residence, Savannah, Ga., December 27.

William C. Jones, M.D., Bellevue Hospital Medical College, New York, 1870, at his home in Grass Valley, Cal., from paralysis, December 28, aged 67.

A. B. Denison, M.D., Starling Medical College, Columbus, Ohio, 1867, of Shauck, Morrow County, Ohio, December 28, after a long illness, aged 63.

Samuel W. Collins, M.D., University College of Medicine, Richmond, Va., 1898, of Varina, Va., suddenly from heart disease, December 26, aged 30.

Joseph W. Pugh, M.D., Kentucky School of Medicine, Louisville, 1880, at his home in Alexandria, Ind., after a long illness, December 28.

Byron B. Loughead, M.D., Western Reserve University, Cleveland, Ohio, 1877, at his home, Ravenna, Ohio, December 25, aged 53.

Isaac Mayfield, M.D., Medical College of Ohio, Cincinnati, 1870, at his home, Randolph, Kas., from paralysis, December 25, aged 86.

John Whittaker, M.D., Washington University, St. Louis, 1862, at his home, Camden, Ohio, from paralysis, December 24, aged 73.

Charles McKillen, M.D., Medical College of Indiana, Indianapolis, 1873, from apoplexy, at his home in Camden, Mich., aged 51.

Harvey H. Buhrman, M.D., University of Maryland, 1862, at Foxville, Frederick County, Md., January 2, aged 61.

Charles Carroll, M.D., Memphis University Medical College, 1889, at his home, Riverside, Texas, December 27.

Thomas O. Walton, M.D., New York University, 1862, at Annapolis, Md., suddenly, December 21.

Hiram C. Cure, M.D., for 40 years a practitioner at Martinsville, Ind., December 30.

Book Notices.

Bacteriology and Surgical Technique for Nurses. By Emily A. M. Stoney, Superintendent of the Training School for Nurses, St. Anthony's Hospital, Rock Island, Ill. Illustrated. Cloth; pp. 190. Price, $1.25. Philadelphia and London: W. B. Saunders & Co. 1900.

The modern nurse is a product of modern medicine. She, or occasionally he, is a necessity of the conditions produced by the present methods of scientific and humane management of the sick and suffering. The modern nurse, if she be successful, must be an intelligent being, not an automaton or a machine to go mechanically through certain routine duties. She should not only know how, but also why, she does certain things, so that she can do them intelligently. This book is intended to teach the nurse the reason why, so that she may know how, to enter into the details of the scientific nursing of surgical cases. The first chapter on History of Bacteriology places before the reader in a simple manner an account of the growth of the science of bacteriology from its beginning. Following this are chapters on Bacteria as a Cause of Disease, in which the various bacteria of importance and their nature are considered; the Theory of Antitoxins; Antiseptics, Disinfectants and Deodorants, in which are described the various germicidal agents, their nature, uses, etc. In the second part are considered the care of the operating-room, sterilization, care of instruments, keeping of charts, anesthetics, surgical dressings, use of the thermocautery, manner of making saline infusions, etc., preparation and care of sutures, ligatures, drainage-tubes, etc., complications following operations, and their management. In fact, all that a surgical nurse, as such, ought to know is discussed in a sensible manner, the author keeping in mind the fact that she is writing for the nurse, not for the operating surgeon. The book is to be commended.

Modern Surgery, General and Operative. By John Chalmers Da Costa, M.D., Professor of Principles of Surgery and of Clinical Surgery, Jefferson Medical College. With 493 Illustrations. Third Edition, Revised and Enlarged. Cloth; pp. 1117. Price, $5.00 net. Philadelphia and London: W. B. Saunders & Co. 1900.

In this edition Da Costa has brought his well-known work thoroughly up to date, making it, as its name indicates, a "modern" surgery. The general plan of former editions has been retained.

A Reference Handbook of the Medical Sciences. Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition. Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume I. Illustrated by Numerous Chromolithographs and 498 fine Half-Tone and Wood Engravings. Cloth. Pp. 799. Price, $7.00. New York: Wm. Wood & Co. 1900.

The "Reference Hand-Book of the Medical Sciences," one of the great encyclopedic works on medicine, is being revised, and the first volume of the new edition is before us. The first volume of the original work was issued in the fall of 1885, and the last in 1887, thirteen years ago. To bring out a revised edition of such a work is no small undertaking, but if it is to continue to fill the place it occupied, the re-writing of the book is necessary. The changes and the advancement of the last decade and a half have made the greater part of the work obsolete. Comparing the first volume of the new with the first volume of the old, one realizes that most of the matter has been re-written. While occasionally the same article is reproduced, this is exceptional, and not only is the new re-written, but, as a rule, by a different author. The changes that have taken place in medicine in the short fifteen years is graphically depicted when the two are compared. The article on "Antiseptics in Surgery"—contributed by Surgeon-General Sternberg—is entirely new. In the former edition this was illustrated with cuts showing the memorable spray which Lawson Tait ridiculed so much; another showed an operation with the operator and his assistants in ordinary street apparel, which certainly looks strange nowadays. Another noticeable difference is that the word "appendicitis" is not to be found in the old, but the subject in the new occupies thirteen columns. Autointoxication was not considered fifteen years ago. but now it takes up six full pages. The subject "bacteria" in the old was worthy of only a half column, in the new it claims no less than forty-four pages. This is, by the way, a most excellent monograph of itself, written by Arthur R. Guerard, and beautifully illustrated, showing the various pathogenic bacteria. This large amount of new matter has made it necessary to omit much that appeared in the first edition. But the articles for omission have been carefully selected so that little that is of importance has been expunged. The subject of balneo-therapeutics, which occupied eight pages in the former edition, is omitted entirely, which will be regretted by but few. The illustrations in the new show the advancement made in the illustrator's art. The paper and presswork are both of better quality. If the succeeding volumes take up as much proportionate space as this one, the complete work will be much larger than its predecessor. The new volume only gets as far as "bladder," while the former first volume reached the word "cataract."

Atlas and Epitome of Gynecology. By Dr. Oskar Schaeffer, Privat-Docent of Obstetrics and Gynecology in the University of Heidelberg. Authorized Translation from the Second Revised and Enlarged German Edition. Edited by Richard C. Norris, A.M., M.D., Surgeon-in-charge, Preston Retreat, Philadelphia. With 207 Colored Illustrations on 90 Plates, and 62 Illustrations in the Text. Cloth; pp. 272. Price, $3.50. W. B. Saunders & Co. 1900.

This compact little work, which is very full of illustrations, is hardly in the usual form of an atlas, though fully deserving of that name. Its value to the medical student will be found, as the editor states, specially in the illustrations. The concise explanatory descriptions are, of course, a valuable feature, and the translation has been well done. The editor has also inserted here and there an editorial comment where it would seem necessary to harmonize and point out the difference between the author's teaching and the usual American practice. The work promises for itself a wide sale and to be of much value to the American student and practitioner.

Hernia: Its Etiology, Symptoms and Treatment. By W. McAdam Eccles, M.S. (Lond.), F.R.C.S. (Eng.), Assistant Surgeon West London Hospital. Cloth. Pp. 231. Price, $2.50. New York: Wm. Wood & Co. 1900.

The aim of this book, as stated in the preface, is "to submit a short account of the origin, symptoms and treatment of a lesion which, by its very frequency, is of considerable importance and one that teems with practical suggestions." The subject is not exhaustively handled, and some of the rarer conditions, such as double sacs, hernia "par glissement;" femoral hernia external to the vessels, pectineal hernia, tuberculosis of the hernial sac, the very large herniæ, etc., are scarcely mentioned. The statement that a direct inguinal hernia is, strictly speaking, a hernia of the linea semilunaris at its lowest part finds no justification in anatomic facts, and it is very doubtful indeed if the conjoined tendon ever actually forms a covering to these herniæ as stated. The indications for the radical operation are too closely drawn. Owing to the very low mortality and the excellent results which follow the modern operation for hernia, it might be said that the presence of a hernia is sufficient indication for operation and that it is only necessary to point out the contraindications or reasons why an operation should not be performed. On account of the fact that late suppuration with extrusion of buried non-absorbable sutures so frequently occurs, the use of the buried silk sutures, as recommended by the author, will find few, if any, adherents on this side of the water.

The treatment of hernia by means of trusses is very well detailed and the illustrations in this connection are unusually good. Many valuable points on the selection and fitting of trusses will be found which show a large and practical experience in this line of work. The author's style is clear, brief and concise, and the volume neatly and well put up.

A Practical Treatise on Fractures and Dislocations. By Lewis A. Stimson, B.A., M.D., LL.D. (Yalen), Professor of Surgery in Cornell University Medical College, New York. Third Edition, Revised and Enlarged. With 336 Illustrations and 32 Plates in Monotint. Cloth Pp. 842. Price, $5.00. New York and Philadelphia: Lea Bros. & Co. 1900.

Only a year has elapsed since the second edition of this book was reviewed in these columns. That a third edition should become necessary in the short space of one year is a recommendation of which few books can boast. Nor is this simply a re-issue. The work has been considerably enlarged by the addition of much new matter and many new plates. The experience of the author with fractures and dislocations has been unusually extensive and, while the work of others has been duly noted and recorded, his conclusions are nearly all based on the large amount of material which has been under his personal care. In considering the ambulatory treatment of fractures, the dangers, as well as the advantages, are clearly defined and the cases in which it is advisable to employ the method pointed out. The operative treatment of acute fractures, such as of the patella and olecranon, is conservatively and judiciously discussed, and advice given to the general practitioner as well as to the experienced hospital surgeon. The author still maintains, as in his former edition, that "thus far, in my experience, the X-rays have rarely given practically important information in fractures which could not have been obtained without their aid." He adds, however, "but there is reason to anticipate that with increasing knowledge and experience much good will yet come from their use." Notwithstanding this rather depreciative estimate of the value of the X-ray, the work is extensively illustrated with excellent X-ray views of nearly all the principal fractures and dislocations. The work is a standard one and can be recommended to all who have to deal with these troublesome cases.

Ballinger and Wippern on the Eye, Ear, Nose and Throat. A Pocket Text-Book of Diseases of the Eye, Ear, Nose and Throat, for Students and Practitioners. By William L. Ballinger, M.D., Assistant Professor of Otology, Rhinology and Laryngology in the College of Physicians and Surgeons, Chicago, etc., and A. G. Wippern, M.D., Professor of Ophthalmology and Otology in the Chicago Eye, Ear, Nose and Throat College. In one handsome 12mo. Pp. 525, with 150 engravings and 6 full-page plates. Cloth, $2.00. Philadelphia and New York: Lea Brothers & Co. 1900.

This compact little volume of related subjects will unquestionably be found useful by the student and the general practitioner. There are in it some magnificent plates descriptive of ocular anatomy. The physiologic tests used by aurists in locating deviations of hearing are dwelt upon at some length. The type and paper are excellent.

Venereal Diseases: Their Complications and Sequelae. By Edward L. Keyes, A.M., M.D., Late Professor of Dermatology and Genito-Urinary Surgery in the Bellevue Hospital Medical College, and Charles H. Chetwood, M.D., Professor of Genito-Urinary Surgery in the New York Polyclinic College and Hospital. Illustrated by 8 Full-Page Plates in Black and Colors, and 107 Engravings. Cloth. Pp. 356. Price, $2.75. New York: Wm. Wood & Co. 1900.

Although a former work of identical title by the senior author of this volume appeared some twenty years ago, this is in no sense a subsequent edition of the work. Dr. Keyes holds his old views, which have been largely accepted by the profession, as to the treatment of syphilis, and he makes no radical change in this presentation of his subject. As regards the teachings of urethral diseases, however, the older work has, he says, long ceased to be a safe guide, and here the work of the junior author is more to the front. The chapter on nervous syphilis has been contributed by Dr. Pearce Bailey, which is duly acknowledged by the authors. The illustrations are numerous, and the more recent views of the different subjects are, we believe, fairly and fully set forth. The compass of the work is sufficient to give a very fair idea of its subject, and while we make no special criticisms or commendations we would say that as a whole it is a very valuable treatise and addition to the literature.

Food and the Principles of Dietetics. By Robert Hutchinson, M.D. Edin., M.R.C.P., Assistant Physician to the London Hospital. With Plates and Diagrams. Cloth. Pp. 548. Price, $5.00. New York: Wm. Wood & Co. 1901.

This volume contains a course of lectures to the students of the London Hospital, recast for publication with a considerable amount of additional matter. It is an excellent manual of dietetics in a form that ought to render it one of the most popular text-books on its subject in our language. Although it is written somewhat from the English rather than the American standpoint, this is not a defect, as the differences that would exist in a purely American work would be slight. The author acknowledges his indebtedness to the American school of investigators in this department, more especially to Prof. Atwater and his colleagues, who have done as much as other recent investigators in any part of the world to advance the science of dietetics. The style of the work is taking, and it is certainly easy reading, which is an advantage; we can safely say that the volume should be of value to the practitioner.

Diseases of the Genito-Urinary System. A Thorough Treatise on Urinary and Sexual Surgery. By Eugene Fuller, M.D., Professor of Genito-Urinary and Venereal Diseases in the New York Post-Graduate Medical School. Cloth. Pp. 774. Price, $5.00. New York: The MacMillan Co. 1900.

This is a treatise on the genito-urinary diseases, largely in their more practical surgical aspects. As they are usually considered surgical diseases this is probably the natural treatment of the subject. The volume covers its ground fairly well. While on some points there may be a difference of opinion as to special methods and ideas described or inculcated, as a whole it is one of the most valuable of the recent contributions to the literature on the subject.

A Text-book of Histology, Including Microscopic Technic. By A. A. Böhm, M.D., and M. von Davidoff, M.D., of the Anatomical Institute in Munich. Edited, with Extensive Additions to both Text and Illustrations, by G. Carl Huber, M.D., Junior Professor of Anatomy and Director of the Histologic Laboratory, University of Michigan. Authorized Translation from the Second Revised German Edition by Herbert H. Cushing, M.D., Demonstrator of Histology and Embryology, Jefferson Medical College, Philadelphia. With 351 Illustrations. Cloth. Pp. 501. Price $3.50. Philadelphia: W. B. Saunders & Co. 1900.

This important volume is one of the numerous additions to English medical literature by the translation of standard German and other foreign works. In this case it is the authorized translation from the second revised German edition edited by Prof. Huber, of the University of Michigan. The substance of the book is the special matter of the lectures and courses in histology given at the University of Munich, and is retained in its English form with certain minor changes and numerous additions by the editor. These are more particularly notable in the portion on the nervous system and the glands of internal secretion. Over 100 illustrations, most of which are from original drawings, have been added to this volume which were not contained in the German editions, making the work as it stands a decided improvement over the original. The translation appears to be admirably done, and the publisher's part is beyond criticism.

Diseases of the Nervous System. A Text-Book for Students and Practitioners of Medicine. By H. Oppenheim, M.D., Professor at the University of Berlin. Authorized Translation by Edward E. Mayer, A.M., M.D., Pittsburg, Pa. First American from the Second Revised and Enlarged German Edition. With 293 Illustrations. Cloth. Pp. 899. Price $5.00. Philadelphia and London: J. B. Lippincott Co. 1900.

Oppenheim's work has acquired a reputation as a text-book in Germany, and the present translation into English is a service to the American profession. As a text-book it is brief in its treatment of many subjects, but its arrangement and its subject-matter are such that it will undoubtedly take its place among other well-known and excellent treatises on nervous diseases that already exist in our language. We do not say that it has special advantages over all of these, but it certainly will be useful and valuable to the student and practitioner as giving the later German views on this important class of disorders.

Tropical Diseases. A Manual of the Diseases of Warm Climates. By Patrick Manson, C.M.G., M.D., LL.D. (Aberd.), Lecturer on Tropical Diseases at St. George's Hospital, Charing Cross Hospital Medical Schools, Lecturer in the London School of Tropical Medicine, Medical Adviser to the Colonial Office, etc. With 114 Illustrations and 2 Colored Plates. Revised and Enlarged Edition. Cloth. Pp. 684. Price $3.50. London, Paris, New York and Melbourne: Cassell & Co., Ltd. 1900.

This manual of diseases of warm climates is handy, compact and concise, and yet appears to contain everything essential for an efficient working knowledge of the diseases of our warmer regions. The chapters on malaria are clear and lucid, and moreover interesting from the fact that Manson first formulated the mosquito-malaria theory, subsequently apparently demonstrated by Ross and MacCallum. The author's scientific turn of mind is apparent in every chapter.

A Text-book of the Practice of Medicine. By James M. Anders, M.D., Ph.D., LL.D., Professor of Practice of Medicine and Clinical Medicine in the Medico-Chirurgical College, Philadelphia. Illustrated. Fourth Edition, Thoroughly Revised. Cloth. Pp. 1292. Price, $5.50 net. Philadelphia and London: W. B. Saunders & Co. 1900.

The fourth edition of this well-known text-book appears only a year later than the previous one, and shows how well it has taken with the medical profession and the student. The changes that have been made are particularly in the parts on diseases of the digestive system and on certain other disorders, together with more or less revision in the text of the remaining portions. As a whole, the present edition is much improved. and there is no question that it will continue to maintain the favor with which it has been heretofore received.

Miscellany.

Proposed Legislation Affecting Army Medical Corps.

The Committee on National Legislation has been in conference with the military committee of the senate and house of representatives considering the army efficiency bill, S. 4300, and has recommended a substitute for Medical Section 18, in the interest of the civilian physicians of the United States and of the surgeon-general. The committee on national legislation appeals to every member of the American Medical Association requesting him to write or telegraph at once to both chairmen, Senator Hawley and Representative Hull, or his individual senator and congressman, urging them to vote for and favor the passage of the substitute presented by the committee. The original bill is highly objectionable. The substitute proposed by the surgeon-general to Section 18 of the Bill, S. 4300, and approved by the Committee on National Legislation of the American Medical Association was printed in The Journal of December 29, p. 1684. We also direct attention to the letter from Dr. C. A. L. Reed in this issue. The substituted section is recommended for the following reasons: The number of medical officers proposed by S. 4300 is 8 colonels, 12 lieutenant-colonels, 60 majors, and 240 captains and lieutenants; a total of 320. This gives a proportion of officers in each grade of 1 colonel. 1½ lieutenant colonels, 7½ majors, 30 captains and lieutenants; a total of 40. The number proposed in the section hereto appended is 10 colonels, 20 lieutenant-colonels, 80 majors, 200 captains and lieutenants; a total of 310, the proportion of officers in each grade being 1 colonel, 2 lieutenant-colonels. 8 majors, 20 captains and lieutenants; a total of 31. The total number asked for, 310, is desired for the reason that it is the absolute minimum number required to properly care for an army of 58,000 men in time of peace. The number of officers in each grade is arrived at for three reasons: 1. That the number of officers in the higher grades is the minimum number required in these grades to properly administer the affairs of the Medical Department. 2. That the number of officers in each grade is within a fraction of the relative number in each grade in the Medical Department at the present time, the present proportion being 1, 1 2/3, 8 1/3, and 20; the proposed proportion being 1, 2, 8 and 20. From this it will be seen that the proportionate rank in the number proposed in this section is within a fraction of the proportionate rank as it now exists in the Medical Department, and that, consequently, no injustice will be done the Medical Department by substituting the proposed numbers for those which now obtain. 3. The efficiency of the Medical Department depends upon the quality of the men who enter this department, and the quality of the men depends upon the inducements offered them to enter upon a life career in the military service. The efficiency of the Medical Department in the past has been maintained by the rank and pay secured by the grading of the officers, which now obtains, and this depends upon the relative number of officers in each grade. It has been shown that the relative number in each grade is practically similar in the proposed section to that which now obtains in the Medical Department. This proportion is much changed by S. 4300, for while the present proportion is 1, 1 2/3, 8 1/3, and 20, total 31, the proportion in S. 4300 is 1, 1½, 7½ and 30—a total of 40; while S. 4300 gives a slightly higher proportion in the higher grades it gives a much lower proportion in the lower grades, the difference in the lower grades being in proportion of 20 to 30, and if S. 4300 becomes a law the consequence will be that while officers in the upper grades will pass through these grades as rapidly as they did before, promotion for officers in the lower grades will be much slower. As at present constituted a majority in the Medical Department is reached after from 18 to 19 years' service, while if S. 4300 is adopted it will take over 25 years for an officer to reach the same grade. For this reason the adoption of S. 4300 could not but seriously impair the future efficiency of the corps, in that by materially reducing the emoluments, it would in the future offer too small an inducement to that class of professional men whose entry to the corps maintains its efficiency. It is believed that the adoption of the numbers in the section proposed will not only give the extreme minimum total number required for the Medical Department in time of peace, and the minimum number of officers of each grade necessary to perform the administrative work of the corps, but by giving practically the same proportion in each grade will enable the medical corps to maintain its present degree of efficiency, in that the same emoluments will be offered in the future as have been offered in the past. The continuance in service for a limited time of a certain number of volunteer surgeons is also recommended. This, for the reason that the exigencies of the service as they now exist in the Philippine Islands can not be met unless more medical officers are allowed than these give for the regular Medical Department. The exigencies of the service demand that these officers shall have the rank of major and colonel, as they have important and arduous duties to perform. 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present proportion being 1, 1 2/3, 8 1/3, and 20; the proposed proportion being 1, 2, 8 and 20. From this it will be seen that the proportionate rank in the number proposed in this section is within a fraction of the proportionate rank as it now exists in the Medical Department, and that, consequently, no injustice will be done the Medical Department by substituting the proposed numbers for those which now obtain. 3. The efficiency of the Medical Department depends upon the quality of the men who enter this department, and the quality of the men depends upon the inducements offered them to enter upon a life career in the military service. The efficiency of the Medical Department in the past has been maintained by the rank and pay secured by the grading of the officers, which now obtains, and this depends upon the relative number of officers in each grade. It has been shown that the relative number in each grade is practically similar in the proposed section to that which now obtains in the Medical Department. This proportion is much changed by S. 4300, for while the present proportion is 1, 1 2/3, 8 1/3, and 20, total 31, the proportion in S. 4300 is 1, 1½, 7½ and 30—a total of 40; while S. 4300 gives a slightly higher proportion in the higher grades it gives a much lower proportion in the lower grades, the difference in the lower grades being in proportion of 20 to 30, and if S. 4300 becomes a law the consequence will be that while officers in the upper grades will pass through these grades as rapidly as they did before, promotion for officers in the lower grades will be much slower. As at present constituted a majority in the Medical Department is reached after from 18 to 19 years' service, while if S. 4300 is adopted it will take over 25 years for an officer to reach the same grade. 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Dr. Byron B. Davis, Omaha, said the best operation for stone in the bladder is one which the most nearly answers the following conditions: 1, has the lowest operative mortality; 2, is followed by the smallest percentage of recurrence, and 3, most nearly restores the urinary apparatus to a normal condition. The operation of lithotrity has a small mortality, chiefly because it is only used in the comparatively simple and uncomplicated cases. In the hands of lithotritists the serious cases are treated by one of the cutting operations, and of course their results show a large mortality. It is also shown that men who practice consistently the suprapubic method in all cases as they present themselves, have a mortality which bears comparison with the results of the most skilled lithoritists, The number of recurrences, when the cutting operations are practiced, followed by drainage, are few. Quoting from men with large experience, it is shown that after lithotrity, recurrences are very frequent, one in seven cases or oftener. In giving a reason for these numerous recurrences, the author finds that after lithotrity the conditions which lead to the formation of stone in the first place, are not removed by the operation of lithotrity. The condition most frequent is stagnation combined with the presence of micro-organisms. Furthermore, it is asserted that no man can be sure he has emptied the bladder of all fragments and particles of sand, and these, if left behind, will serve as nuclei for fresh stones. On the other hand, when drainage is used after a cutting operation, until all infection has passed away, one of the chief factors in the production of recurrence is eliminated. Through an incision, all fragments can be easily removed; if the prostate obstructs, it can be dealt with in such a manner as to insure complete emptying of the bladder in the future.

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OPERATIVE MANAGEMENT OF RETROPERITONEAL ABSCESS OF APPENDICULAR ORIGIN.

Dr. Gilbert G. Cottam, of Rock Rapids, Iowa, read a paper with this title in which he gave the following explanations of the occurrence of retroperitoneal abscess of appendicular origin: 1. Inflammatory attachment of the tip of the appendix to either fold of the mesocolon, followed by perforation into the post-colonic space. 2. Transmission of the infection from an acutely inflamed appendix, situated anteriorly, along the lymphatics of the appendix and cecum to the mesocolic glands. 3. Abnormalities of the peritoneal investment of the appendix. In about 75 per cent. of cases the meso-appendix is lacking, rendering the appendix an extraperitoneal organ, in contact with the peritoneum only on its anterior aspect. This type may be termed the retroperitoneal appendix and demonstrates its proximal relations to the postcolonic space. The various procedures available for reaching, evacuating and draining retroperitoneal abscesses were given. After treating all of these in detail and describing illustrative cases, the author concluded by advocating the posterior incision in all cases where a retroperitoneal abscess is suspected, or where there is doubt as to whether the abscess is in front of or behind the posterior parietal peritoneum, for the following reasons: It does not open the general peritoneum; it allows drainage by gravity; it disposes of the hernia problem, and if the abscess should prove to be anterior, the iliac incision can still be used and drainage instituted through both openings, the lumbar incision then corresponding to the counter-incision as now ordinarily used.

ANATOMICAL AND SURGICAL OBSERVATIONS ON APPENDICULAR ABSCESS.

Dr. A. C. Bernays, St. Louis, said that the earliest operation of appendectomy in which he has found pus in the cavity of Douglas was done on the morning of the third day, about fifty hours after the attack, and the amount of pus was over a pint. The large majority of cases were operated between the eighth and fifteenth days, i. e., during the second week. He believes the most reliable sign of Douglas' abscess is the appearance of abdominal distension early in an attack of appendicitis. The drainage per rectum in men and per vaginam in women of typical Douglas' abscesses is an easy and successful treatment in uncomplicated cases. In cases in which Douglas' abscess is complicated by iliac, lumbar, or some other abscesses, or in which the Douglas abscess reaches so high, that it can be felt above Poupart's ligament, it has often been opened and drained from the anterior abdominal parietes.

Dr. Van Buren Knott, Sioux City, Iowa, gave a further report of a case of cerebral cyst on which he had operated some three and a half years ago.

OPERATIVE MANAGEMENT OF HIP-JOINT DISEASES: A CRITIQUE.

Dr. A. F. Jonas, Omaha, drew the following conclusions: 1. The aim of the surgeons should be radical in the removal of all affected structures and the preservation of all healthy bone. 2. To preserve the greatest amount of healthy bone and consequently to insure the best possible joint function, makes early incision imperative. 3. To insure the best possible function means not only the early evacuation of intra-articular tubercular products, and the removal of diseased structures, but implies a most thorough disinfection. 4. The most effective disinfection method known at the present time is pure carbolic acid and alcohol. 5. To insure the retention of the femoral extremity in the cotyloid cavity, which is necessary to insure good function, requires the greatest possible obliquity of the upper end of the bone. This can be done only by preserving as much of the neck as possible. Where a portion of the neck is destroyed or must be removed, a certain obliquity can be obtained by removal of the trochanter major. 6. To insure permanent usefulness of the hip-joint, long-continued mechanical correction by means of portable extension brace must be insisted upon. 7. Excision of femoral head, neck and trochanter must be avoided when possible.

SYMPOSIUM ON SURGICAL TUBERCULOSIS.

Dr. J. Clark Stewart, Minneapolis, discussed tuberculosis the fascia; Dr. Rollin E. Cutts, Minneapolis, tuberculosis of tubes, ovaries and peritoneum, and Dr. Knute Hoegh, Minneapolis, tuberculosis of bones and joints.

TREATMENT OF TUBERCULOSIS OF BONES AND JOINTS.

Dr. James E. Moore, Minneapolis, said the treatment of tuberculosis of bones and joints is almost inseparable because the disease usually begins in the epiphysis of long bones and the neighboring joint soon becomes affected. Tuberculosis of the shaft of long bones is so rare that some surgeons have never seen a case. When it does occur, the only treatment to be considered is the complete removal with hammer and chisel, and in the absence of a mixed infection allowing the wound to fill with blood-clots. Bone chips, iodoform, and boracic acid are not as good as the blood-clot. Orthopedists have arrived at great perfection in their methods and know just about what they can accomplish, but they are too well content with their methods and do not resort to operative measures soon enough. Their results are slow and unsatisfactory, but are better than the surgeon can offer at present.

Every case of joint tuberculosis is best treated for a short time by rest in bed, with extension by weight and pulley. An apparatus applied later should afford rest and protection to the joint, and should hold the limb in proper position, since a tubercular joint once cured in a faulty position can not be broken up safely. Plaster of Paris will yield better results in inexperienced hands than complicated braces. It should be applied just tight enough, not too heavy, and should extend far enough above and below the joint to prevent motion. When joints of the lower limbs are affected, crutches with a high shoe on the well foot should supplement the plaster bandage. The injection method of treatment is not recommended. When a joint is growing worse, in spite of good mechanical treatment, it should be operated on without delay. Pure carbolic acid and the actual cautery are recommended as valuable aids in operative cases. Whether the disease be primary or secondary, it can be cured by complete removal. The surgeon should be as careful to remove all diseased tissue as if he were operating upon malignant disease.

TOPICAL APPLICATIONS IN GYNECOLOGICAL PRACTICE; THEIR USE AND ABUSE.

Dr. J. W. Andrews, Mankato, Minn., expressed himself as having very little confidence in the utility of pessaries, and in topical applications in gynecological practice. In a large majority of cases of retroversion or retroflexion of the uterus with tenderness in Douglas' pouch, he believes there is some disease of the ovaries and tubes on one or both sides, and this can only be cured by surgical measures. In concluding his paper he expressed the belief that there is no longer a legitimate field for the gynecologist. There is no reason why a good surgeon who can operate well on the abdominal organs should not operate equally well on the pelvic organs. There is no reason why the general practitioner can not treat catarrh of the cervix, when it exists, as well as he can a catarrh of the throat. He hoped that the routine topical applications in gynecological practice would be relegated to the mistakes of the nineteenth century.

A CALCAREOUS UTERINE FIBROMA.

Dr. H. G. Wetherhill, Denver, reported a fibroid tumor of the uterus, one nodule of which had undergone complete calcareous degeneration. The tumor was a true fibromyoma in all its parts, except this particular nodule, which was quite symmetrical, entirely interstitial, and so infiltrated with lime salts as to appear like a mass of uncalcined limestone, and so dense as to require the use of a bone saw for making a section. Its diameters were 4 and 3 inches. The clinical history of the patient was like that of others with fibroid tumor, except for a notable record as to cancer. Her father, mother, two maternal aunts and one paternal aunt had died of that disease. Patient recovered from the operation.

FIBROMYOMA OF THE URETHRA.

Dr. Wetherhill also reported an operation for the removal of a tumor of the urethra and anterior vaginal wall, the tumor being a myofibroma and having its origin in the muscular coats of the urethra and completely enveloping that canal. The tumor was 3½ inches long by 2 inches wide, and was first noticed twenty years before removal. It was reducible, but was not retained within the vagina unless resort to packing was had. The specimen is interesting chiefly on account of its rarity, the only other myoma of the urethra found reported by the author being one quoted in Kelly's "Operative Gynecology." Examination of the tumor by a pathologist showed it to consist almost entirely of fibrous tissue, a few unstriped muscular fibers being scattered through the tumor.

The following officers were elected for the ensuing year: President, Dr. A. F. Jonas, Omaha; vice-presidents, Dr. A. W. Abbott, Minneapolis, and Dr. C. E. Ruth, Keokuk, Iowa; secretary-treasurer, Dr. George H. Simmons, Chicago; executive council, Drs. O. B. Campbell, St. Joseph, Mo.; H. C. Crowell, Kansas City, Mo.; John P. Lord, Omaha; James E. Moore, Minneapolis, and M. L. Harris, Chicago. Next place of meeting, Chicago. Chairman of committee of arrangements, Dr. John B. Murphy.

California Academy of Medicine.

Monthly Meeting, Nov. 27, 1900.

Dr. W. W. Montgomery in the chair.

LEPROSY.

Dr. Howard Morrow exhibited a man aged 50, suffering from leprosy. He was born in Germany, but for the past fifteen years had lived in the Hawaiian Islands. He roomed with a male leper for one year in Honolulu. Six months ago he noticed a white area on the ulnar side of the wrist of the right hand, with slight traction of the little finger and shooting pains in it. Four months ago several brownish-red nodules developed on this whitened area, and others appeared in the skin on the back of the left hand, two on the forearm, one on the shoulder, two on the abdomen, and one on the right thigh. The nodules on the hand were confluent and anesthetic to pain, heat, and touch. Other nodules were seen, slightly indistinct. The case was of interest, because no bacilli had been demonstrated on sections taken from the nodule on the shoulder, also because there was no fever with the development of the nodules, and from the fact that no nodules had developed since the patient came to this country two months ago. Histological examination showed areas of plasma-cell infiltration in the corium, and a few larger cells, probably "lepra cells," but no bacilli could be found in them.

Dr. D. W. Montgomery said this case was particularly interesting on account of its resemblance to either leprosy or syphilis. When he first saw the case he had thought it was syphilis, but the anesthesia threw doubt on such a diagnosis. He found some places on the body where he had expected to find lepra bacilli, but they were not found. Dr. Morrow did find some bacilli which stained with methylene blue, were grouped, and resembled very much the lepra bacillus. These bacilli were very short. The fact of there being anesthetic areas over several of the infiltrations, and of his coming from a leprous country, and living with a leper, certainly pointed to a diagnosis of leprosy. He was put on syphilitic treatment simply because no lepra bacilli were found, and not because results were really expected from such treatment. There were some points also in the histology which pointed to leprosy and not to syphilis.

CARCINOMA OF STOMACH AND PYLORUS.

Dr. T. W. Huntington exhibited a case with the following history. A man aged 65, native of Ireland, entered the City and County Hospital about Aug. 1, 1899. For the past year his health had gradually failed; he had suffered from pain in epigastrium, anorexia, occasional emesis, constipation, and gradual loss of weight. On entrance he was very weak, refused solid food, and would take only limited quantities of milk. He was pale, anemic and cachectic. Pressure below ensiform cartilage elicited pain. Examination of stomach contents showed absence of hydrochloric and excess of lactic acid. Stomach was greatly dilated. Diagnosis was carcinoma at or near pylorus. Operation took place Aug. 5, 1900. Median line incision was made below ensiform cartilage. Upon exposing pyloric end of stomach there was discovered an induration occupying the pylorus and extending along lesser curvature of stomach for four or five inches. The upper part of duodenum was thickened but not distinctly indurated; adjacent organs free from metastases. The upper portion of the duodenum, the pylorus and lower segment of stomach were removed. The stomach was closed by a double row of Lembert sutures, and the upper end of duodenum was attached to posterior wall of stomach by a Murphy button. The parietal wound, owing to exhausted condition of patient, was hastily closed by through-and-through silkworm-gut sutures. For five days the patient was fed per rectum. After that time food was given in small amount by the mouth. The patient made a fairly quick recovery, and the button was recovered on the thirteenth day. Prof. A. E. Taylor reported the specimen to be one of carcinoma of stomach and pylorus. There were evidences of malignancy at or near the upper margin of the stomach wall. After the first three weeks solid food was ingested and digested with comfort. He gained weight and strength slowly; was free from pain; appetite was good. On October 1, the supraclavicular glands were found to be enlarged and indurated. At the present time the glands above noted are apparent, but not so large as when first observed. There is a well-marked ventral hernia at site of incision. Patient's appetite remains good and digestion excellent. There is a suspicious feeling of resistance below ensiform cartilage, but no tenderness, and the inference is that if there be a recurrence of the growth in the stomach wall, it is remote from the anastomotic orifice, and non-obstructive. He is able to be about and seems to enjoy an altogether comfortable existence. The ventral hernia will be repaired in the near future and the case carefully watched with reference to final outcome.

Dr. Dudley Tait said there were several interesting features in Dr. Huntington's case. The extent of the involved area was remarkable. He had never seen a pyloric growth extending in the direction of the duodenum. In one specimen of pyloric cancer seen at the dead table, he noted an infiltration of the submucosa of the duodenum. The serous and mucous layers were apparently intact. The usual ocular inspection in an operation on such a case would have proved useless. In a growth like that described by Dr. Huntington, involving one-third of the duodenum the pylorus and a portion of the stomach, one would expect to find several glands, especially in the retropyloric region. All operations are useless unless these glands are completely removed. The supraclavicular glands found in carcinoma of the abdominal viscera are not always malignant. In two cases of cancer of the stomach, under observation at the French Hospital, Dr. Tait had removed a large gland from the neck, which proved to be tuberculous. In both of these cases all radical measures had been considered useless on account of the presence of the enlarged supraclavicular glands.

Dr. Huntington said that he had been in doubt regarding the condition of the duodenum, and removed a portion of it because it looked suspicious. He was aware that it was not usually involved. The retropyloric glands seemed normal, though no doubt if he had gone up the lesser curvature to the cardiac orifice he would have found some enlarged. The patient improved wonderfully after the operation. He now ingests and digests food well, and gains in strength. While he thinks he did not remove enough of the stomach, the operation has certainly been justified by the comfort of the patient following it. Recurrence, if there had been any, had been through the glandular system.

MYXEDEMA.

Dr. Herbert C. Moffitt reported three cases of myxedema in children, and exhibited two of the patients before the academy.

Dr. T. W. Huntington said that some years ago he had removed an entire thyroid and the patient had developed myxedema within a year. He is a bookkeeper, holds a responsible position in Sacramento, and remains in very good condition, but has to resort to thyroid treatment for about a month at a time three or four times a year. He had not seen him now for several years, but understands he is living a useful life.

Dr. Wm. W. Kerr, in discussing the treatment with the thyroid extract, said that the dosage necessarily varies and depends largely on what preparation is used. A patient he had was taking 15 grains a day of the preparation of a certain manufacturer. This patient went east and was referred to Starr, who put him on an English preparation, and he improved remarkably on 5 grains, first twice, and then once a day. Another patient takes 5 grains of this preparation once a week. He had consulted cattlemen for an explanation as to this difference in American and English preparations, and believed it is due to the fact that in this country the thyroid gland in the sheep atrophies after the first year. Regarding the duration of the treatment, if the gland has been removed, or there is deficient secretion, the patient will always have to use the extract.

Philadelphia County Medical Society.

Meeting Nov. 28, 1900.

Dr. George Erety Shoemaker, in the chair.

CUTANEOUS SYPHILIS.

Dr. Jay F. Schamberg reported a case of refractory cutaneous syphilis and exhibited the patient, a woman aged 39 years, who had, in 1892, been inoculated with syphilis, the disease having been contracted from her husband. Later a number of reddish and elevated rounded patches appeared on the arms and legs. A large reddish scar also existed in the palmar surface of the right hand, and painful paronychia was also present on one of the digits. The patient had gained in weight during the past year. One physician had given hypodermics of bichlorid together with mercurial inunctions. She had lately been taking iodids, but without much benefit.

Dr. M. B. Hartzell stated that in many of these cases he had seen good follow the administration of the potassium iodid in very large doses and he had in one instance given as much as half an ounce daily.

TREATMENT OF GONORRHEA.

Dr. Edward Martin spoke on the treatment of gonorrhea. His remarks were confined to the line of treatment which he had found most efficacious during the past few years. The results had been compared with that obtained in the treatment of about 80 cases of the old plans of treatment. Of these 80 cases some had taken in the late stages of the disease, oil of cubebs, oil of sandalwood, and oleoresin copaiba. He had found that oil of cubebs was practically useless; salol, oil of sandalwood and copaiba did good. A combination of salol, oil of sandalwood and copaiba was best for internal use. Some patients had been for a time treated on the expectant plan, and the results had not been good. His present plan of treatment is as follows: When the case is first seen, if it be within the first few hours, or first twenty-four hours from the onset of the symptoms, the patient is to use an injection of a solution of protargol 6 grains to 3 ounces every two or three hours during the day. Before inserting the rubber nozzle in the meatus one or two drops of the solution should be dropped on the parts so as to wash away any debris or septic material. The rubber nozzle should then be inserted and the fluid injected and retained in the usual manner for about three minutes. On the following day the urethra should be irrigated with a solution of potassium permanganate 1 in 6000. The fluid should be placed in a fountain syringe and the parts irrigated daily by means of a short—about half an inch—blunt hard rubber nozzle made to fit the parts. About one and a half pints of the fluid should be used. After a few days the permanganate and protargol solutions might be increased in strength. Internally salol and lithium citrate might be given. Each night a prolonged hot bath should be given, since this tends to lessen the amount of congestion, and prevents priapism. He had frequently been able to cure patients of gonorrhea by this method within fifteen days. It should however be remembered that there are some cases refractory to every line of treatment. After six weeks a bougie or dilatable urethrotome might be used to determine the tender spots which might receive local treatment. He had lately almost discarded the use of the cystoscope in the treatment of gonorrhea.

Dr. Heller Christian stated that the protargol solution was the best drug he had tried in the treatment of gonorrhea. He used a solution of protargol 10 grains to 4 ounces; and a solution of potassium permanganate ½ grain to 8 ounces. He believed the protargol solution should be retained as long as fifteen minutes, since it required this length of time to obtain the best local effect. About the second week the strength of the medicines should be doubled. About the fourth week copaiba and sandalwood oil should be given. He believed most failures had resulted from the fact that physicians had not determined whether the disease had been an anterior or posterior one. If posterior urethritis existed irrigation should be done every day. The diagnosis could be told by having the patient first urinate in one glass and the latter portion in another similar vessel. The part showing the mucus or sediment would give the clue. In chronic gonorrhea or when the prostate is involved, massage of this organ should be done through the rectum.

CYSTOSCOPY IN WOMEN.

Dr. John G. Clark spoke on this subject and exhibited the instruments necessary. The speaker stated that when abroad he had observed that in many of the clinics the operators did not seem to be familiar with all the technique of carrying out cystoscopy as practiced by Howard Kelly. In one clinic a failure had resulted from the fact that the operator had placed the patient in the Sims position instead of the knee-chest posture. The latter position is always necessary, since the bladder is drawn forward, and is dilated more on account of the atmospheric pressure. In cystitis it should be remembered that the inflammation is not usually diffused over the entire organ. As a rule the part most affected is simply the vesical trigone. The diagnosis is best made by the Nitze instrument, and the treatment by the Kelly urethroscope of the later pattern, which gives a better view of the field.

Dr. B. Alexander Randall offered a resolution that it was the sense of the Society that the best interests demanded the payment by the Board of Education of a salary ($500) to each medical inspector (100) of the public schools. Carried unanimously.

New York Academy of Medicine.

Section on Obstetrics and Gynecology, Nov. 22, 1900.

ABDOMINAL VERSUS VAGINAL HYSTERECTOMY FOR CANCER OF THE UTERUS.

Dr. William R. Pryor, in opening the discussion on this subject, said that a successful operation for cancer of the uterus must comprise the removal of the uterus, the adnexa, a considerable portion of the vagina, and certain glands. The most important of the latter, in this connection, were the obturator, though perhaps the most commonly overlooked. Other glands requiring attention were those at the bifurcation of the common iliac and those at the uterosacral folds. Vaginal hysterectomy was, of necessity, only an incomplete operation for uterine cancer, except in a few cases. Statistics from abroad, founded on 3155 vaginal operations, gave a mortality of 9 per cent.; his own collation of American statistics gave the mortality from the abdominal operation as 11.8 per cent. A fundamental principle in these cases should be, that in the removal all possibility of infecting the wound with either cancer cells or with the very septic contents of a cancerous uterus must be avoided. Another principle was that as little violence should be inflicted on the growth and the surrounding structures at the operation. While the vaginal operation was preferable as a purely palliative measure, he believed that the abdominal operation alone met the requirements for the radical operation.

Dr. H. J. Boldt said that, in the present state of our knowledge, he thought it was only exceptionally that abdominal hysterectomy should be done for uterine cancer. Vaginal hysterectomy allows of a smaller opening of the peritoneal cavity, takes less time to perform and is followed by a much more rapid convalescence; moreover, there was no abdominal wound with its occasional bad consequences. The one advantage of the abdominal operation was the opportunity it afforded for extensive removal of infected glands, yet it was now generally conceded that the blood-vessels and glands were often not involved until late in the disease.

DR. J. E. JANVRIN stated that, looking back 18 years, he could point with pleasure to fully one-third of his operative cases of uterine cancer as having been permanently cured. Of course, it was only in very early cases that such results could be expected, yet he was in favor of operating in even advanced cases, as he was of the opinion that the patient was made more comfortable thereby.

DR. WILLIAM M. POLK said that while preferring the abdominal route he could only look on these cases with horror, as only one of his cases had survived without recurrence.

DR. W. GILL WYLIE said that in cases occurring in older women it was possible by an early and radical operation to effect many cures. It was most important that an interval of several weeks should not be allowed to elapse between the removal of a fragment of tissue for examination and the performance of the radical operation, should the diagnosis justify such a course.

DR. RAMSAY, of Yale, thought the surgeon should not adhere to one operation for all cases of uterine cancer. He preferred the suprapubic method for most cases, but was inclined to think that the operation of the future would be the combined method.

DR. A. PALMER DUDLEY heartily endorsed the view that the combined method was the best of all.

Therapeutics.

Exophthalmic Goiter.

M. A. Starr, in *Med. News*, advises rest, careful diet, mercury inunctions to the neck, especially the red iodid of mercury, tincture of iodin—minims five three times a day—and belladonna, are sometimes of use. The use of iron and arsenic as blood-builders are of use. Injections of iodin and other irritants are dangerous. Digitalis, strophanthus and counterirritation are of little benefit, when there are pressure symptoms partial extirpation must be performed. He administers sodium glycerophosphate to counteract the poison in the blood:

R.	Sodii glycerophosphati	℥i	32

M. Ft. chartulæ No. xxxii. Sig. One powder after each meal in water.

This preparation is miscible in water and is of use in all cases where the system needs phosphorus. It can be given hypodermically.

Treatment of Compound Fractures.

Dr. S. Leigh, in the *Southern Medical Journal*, emphasizes the following important points in the treatment of compound fractures:

1. Free opening of the wound.
2. Removal of all useless torn tissues.
3. Thorough disinfection.
4. Good coaptation of bones.
5. Loose closing of the wound.
6. Firm pressure dressing.
7. Constitutional treatment.

He places special stress on the constitutional treatment, so that the tissues, both soft and bony, will unite quickly and thoroughly—such as good food, plenty of pure water, mild cathartics, strong doses of strychnin and iron with cod-liver oil, iodids in appropriate cases, and lime in the form of syrup lactophosphate.

Chronic Bronchitis.

R.	Eucalyptol	ʒi	4
	Tinct. opii camph......................	ʒiv	16
	Syr. tolutani	℥i	32
	Syr. simplicis, q. s. ad	℥iv	128

M. Sig. One teaspoonful every four hours.

Association of Trional and Paraldehyde.

According to the *Phila. Med Journal*, Rapiteau states that trional is freely soluble in paraldehyde and that the mixture is four or five times as active as trional alone when used as a hypnotic. He recommends, in *Thése de Paris*, the following formulæ:

℞.	Trional	gr. xv	1
	Paraldehyde	gr. xxx	2
	Ol. amygdalæ dulcis	ʒiv	16

M. Sig. At one dose.

AS AN ENEMA.

R.	Trional,		
	Paraldehyde, āā..................	ʒss	2
	Yolk of one egg,		
	Lactis	℥iv	128

M. Sig. Use in the form of an enema.

AS A SUPPOSITORY.

R.	Trional	gr. iii	2
	Paraldehyde	gr. viss	4
	Olei theobromatis	ʒi	4

M. Sig. Use as a suppository.

For the Pains in Tabes Dorsalis.

R.	Phenacetini	gr. xx	1
	Caffeinæ citratæ	gr. x	66
	Salol	gr. x	66
	Acetanilidi	gr. xv	1
	Sodii bicarb	gr. x	66

M. Ft. capsulæ No. x. Sig. One capsule every three hours until the pain is relieved.

[Phenacetin and acetanilid act particularly upon the spinal cord and its sensory tracts, and consequently can take the place of the opium preparations a great many times in relieving patients subject to these attacks].

Ohlemann, in *Ocular Therapeutics*, gives the following formulæ for local applications when indicated in diseases of the eyelids, such as styes, etc.:

R.	Hydrarg. chloridi corros..........	gr. 3/20	01
	Vaselini	℥i	32

M. fiat unguentum. Sig. As an ointment to the eyelids.

℞.	Sulphuris sublim..................	gr. xlv	3
	Ammon. chloridi	gr. xv	1
	Aquæ rosæ	℥iss	48
	Spts. camphoræ	ʒiss	6

M. Sig. For local use on the lids.

℞.	Hydrarg. oxidi flavi	gr. iss	1
	Lanolini	℥iss	48
	Glycerini, q. s.		

M. Ft. unguentum. Sig. As an ointment for the eye.

Treatment of Abortion.

H. B. Stehman, in *Medicine*, states the following principles in treatment of abortion and its complications:

1. The rendering of the vulva, vagina, and uterus aseptic and as far as possible maintaining them in that condition.

2. Arresting hemorrhage, either by the use of the tampon in the cervix or vagina, or by directly emptying the uterus.

3. In inevitable abortion, the ovum, or any part of the product of conception should be removed as early as possible.

4. That intelligent curettage is invariably indicated whenever a vestige of placental decidua remains or any suspicion of infection is evident and that a bacteriologic differentiation is necessary both from the standpoint of prognosis and treatment.

5. When circumscribed local infection is a complication, evacuate the pus as early as possible and by the shortest route.

Psoriasis.

Dublitz, in *Jour. de Med. de Paris*, recommends the following:

℞.	Olei cadini—cade	ʒii	8
	Zinci oxidi	ʒiii	12
	Vaselini	℥i	32

M. Sig. For local application.

Chronic Ulcers of the Leg.

In the *Trained Nurse*, L. B. Fisher outlines the method of dealing with chronic ulcers which had been developing for several years and have never entirely healed during the time.

1. Use aseptic methods, as for any wound.
2. Spray with hydrogen peroxid thoroughly.
3. Make the ulcers perfectly dry with absorbent cotton.
4. Dust with acetanilid, one part mixed with boracic acid four parts.
5. Use strips of dry antiseptic gauze, an inch wide and a yard long over each ulcer. Lay them on loosely so as to be effective absorbents.
6. Place antiseptic cotton on top of the gauze.
7. Bandage from toes to knee with firm cotton bandage.
8. Bandage with a starch bandage when the patient is inclined to meddle with the bandage.

When the ulcer is deep, cut a disc of pasteboard large enough to extend half an inch beyond the edge of the ulcer and cut a hole a little smaller than the ulcer in the center of the disc. Bandage this over the ulcer. This will aid granulations.

Powdered charcoal should be used on ulcers that are gangrenous before using the acetanilid mixture. The legs must be freed from dead cuticle by use of alcohol.

Palatable Expectorants for Children.

H. B. Sheffield states that creosote is of great value in protracted coughs, and prescribes it in the following manner:

℞.	Creosoti—beechwood	gtt. viii-xvi		5
	Glycerini	ʒiv	16	
	Vini xerici, q. s. ad	℥ii	64	

M. Sig. One teaspoonful as necessary.

He also enumerates other expectorants which are palatable, such as liq. ammonii anisat., syr. scillæ comp., vinum ipecacuanhæ, syrupus senegæ, tinct. cubebæ, mistura glycyrrhizæ comp.—Brown's mixture—syrupus pruni virginianæ, syrupus tolutani, syrupus altheæ; the last four are also excellent adjuvants.

Frostbite—Congelatio.

Allen Gihon, in the "Twentieth Century Practice of Medicine," states that the proper course of treatment is to endeavor to restore the circulation. If the part which is frozen is exposed to high temperature before the circulation is restored, its death will necessarily follow.

For the purpose of restoring the circulation ice, snow or iced water, which may be gradually raised in temperature, must be depended on. The patient should not be placed in a warm room or brought near a fire until the normal circulation is established; otherwise the inflammation may end in gangrene.

FOR LOCAL APPLICATION.

A local application, which seems to do most good is:

℞.	Ichthyoli	ʒii	8
	Lanolini	ʒvi	24

M. Sig. Local application as necessary.

Gihon states that this ointment almost immediately relieves the pain.

FOR RAW FROSTBITES.

When the parts become raw and exposed, the following has been found of service:

℞.	Acetanilidi	gr. xlviii	3	20
	Lanolini, q. s. ad	℥i	32	

M. Sig. Apply locally.

When ulceration occurs, his statistics show that the acetanilid ointment will best prevent suppuration and promote granulation and cicatrization. When sloughing occurs treat same as when due to other causes—by warm boric-acid dressings, hot fomentations.

FOR MILD FROSTBITES.

In the treatment of the milder forms of frostbite rub the part well with snow or ice-water and afterward apply iodin, of which the tincture or compound tincture is most frequently used:

℞.	Argenti nitratis	gr. v		33
	Aquæ destil	℥i	32	

M. Sig. Paint the affected part frequently with this solution and then wrap the part in raw cotton.

Solutions containing resorcin, tannic acid, carbolic acid and camphor have been used with benefit.

The following is recommended by Boeck:

℞.	Ichthyoli		
	Resorcin		
	Acidi tannici, āā	ʒi	4
	Aquæ	ʒv	20

M. Sig. Apply with a brush at night.

As a rule, iodin should be used only when the skin remains unbroken:

℞.	Tinct. iodi	℥ss	16

Sig. Apply with a brush once or twice daily; or:

℞.	Ichthyoli	ʒiii	12
	Olei terebinthinæ	ʒi	4
	Adipis lanæ hydrosi, q. s. ad	℥ii	64

M. Sig. Spread on a piece of sterilized gauze and apply when the skin remains unbroken.

Hydrous wool fat is a yellowish white unctuous mass, containing about 25 per cent. of water. It freely takes up water and aqueous solutions. It is emollient and serves well as a base for ointments.

SOZOIODOLE-POTASSIUM IN FROSTBITES.

Sozoiodole-potassium is deserving of its reputation in frostbites as in other skin troubles. It should be prescribed in the following form:

℞.	Sozoiodole-potassii	ʒii	8
	Lanolini, q. s.	℥i	32

M. Ft. unguentum. Sig. For local application.

[Sozoiodole is a white, odorless, crystalline powder, containing:

Iodin	52.8	per cent.
Phenol	20	per cent.
Sulphur	7	per cent.

and is usually prescribed in ointments of 10 to 25 per cent. strength.]

ULCERATED FROSTBITES.

Bulkley has used the following on frosted fingers and toes with ulceration with good results:

℞.	Acidi carbol	gr. xx	1	33
	Vaselini	℥i	32	

M. Sig. Apply locally.

The pain will quickly subside and rapid healing will follow.

Lassar, in "Handbook of Local Therapy," gives the following:

℞.	*Acidi carbol*	*gr. xvss*	1	
	Unguenti plumbi			
	Lanolini, āā	ʒv	20	
	Ol. amygdalæ	ʒiiss	10	
	Ol. lavendulæ	gtt. xx	1	33

M. Sig. For local application.

THIOL.

Dillon, *Am. Jour. Med. Sci.*, states that thiol, which is practically an artificial ichthyol, differs from ichthyol in that it has no disagreeable odor. It is said to be of great benefit in treatment of frostbites when applied as follows:

℞.	Thioli—liquidi		
	Glycerini, āā	℥i	*32*

M. Sig. Apply locally on a piece of gauze.

[Thiol is a hydrocarbon obtained by the destructive distillation of peat. It can be prescribed either in the form of dusting powder or as a brownish liquid containing 25 per cent. of the dry residue. When prescribed dry as a dusting powder it can be mixed with starch.]

CHILBLAINS.

According to Hyde the treatment of chilblains should consist in stimulating applications which tend to restore the activity of the circulation. He advises tincture of iodin reduced one-half in strength, or one part of aqua ammonia and tincture of iodin reduced one-half; tincture of camphor; and ointments of iodin, boric acid, and tar. Camphorated soap liniments and lotions containing sodium bicarbonate are also recommended.

The severer forms of frostbite are treated by surgical measures suitable in cases of gangrene and suppuration of slough.

Fetid Bronchitis.

Progrés Medical recommends the following combination in fetid bronchitis:

℞. Plumbi acetatis
Terpin, āā ....gr. ii | 12
Pulv. opii et ipecacuanhæ ....gr. iss | 09
M. Ft. pil. No. i. Sig. *One such pill three or four times* daily for children from 8 to 12 years of age.

Nerve Tonic.

Eucalyptol is also considered by T. Republica, in *Merck's Archives*, as a valuable nerve tonic, which in his hands has proved very reliable. In all neurasthenic conditions, especially those arising from mental overwork, he finds its action satisfactory, especially if it is combined with synergistic agents, such as strychnin and phosphorus. As the effects of the drug are produced slowly he recommends that the administration in these cases be continued for three months.

Treatment of Breasts.

Brodhead, in the *Post-Graduate*, recommends in the case of women who do not expect to nurse, from any cause, the use of a tight breast-binder. The nipples should be protected with gauze; cotton should be placed in the axillæ, around and between the breasts and the binder applied as tightly as it can be worn with comfort. If it becomes loosened it should be tightened; it should not be removed except for purposes of cleanliness, until breasts are soft and painless. It is best applied when the patient is in the horizontal position. In many cases the binder alone is sufficient to dry up the milk; in other cases it will be necessary to limit the amount of fluids taken. When the breasts become caked and tender it is a good plan to administer large doses of salts, the Rochelle being as pleasant and efficacious as any. —*Med. Standard.*

Antipyretic and Antineuralgic.

Eron, in *Gaz. des Hôp.*, states that citrophen is rapidly absorbed, and for this reason it is worthy of consideration. He states that when given hypodermically it can be detected in the urine in twenty minutes. Citrophen is a compound of citric acid and paraphenetidin. It is a white crystalline powder, acidulous taste, soluble in about forty parts of cold water, and can be administered in doses ranging from 8 to 15 grains—.5 to 1 gm. Homberger, Ehrendorffer and Freudenberg report good results.

Administration of Chloralamid.

Chloralamid is a hypnotic which ranks among the best in treatment of the insomnia of *neurasthenia and mild forms of insanity.* Dr. S. Clevenger, in *Medical News*, gives the following formula for its administration:

℞. Chloralamid ....ʒii 8
Spts. frumenti
Syrupi idæi, āā.......................℥i 32
M. Sig. One-half teaspoonful at a dose. Two or three *times* this sized dose can be given if necessary.

Lettow gives it as an enema as follows:

℞. Chloralamid ....gr. xlv 3
Acidi hydrochlorici ....m. ii } 12
Alcoholis ....m. xv. 1
Aquæ ....℥iii 96
M. Sig. *To be given per rectum.* *N. Y. Med. Jour.*

Removal of Ear-Wax.

Hardened wax in the external ear can often be removed readily by injections of *warm water and soap, soda or ammonia.* Many cases resist this, and require the softening effects of glycerin or sweet-oil for a day or two before syringing. *Do* not bother with these long processes, but use a half-strength solution of hydrogen dioxid in the ear for about five *minutes.* This will disintegrate the hardest plugs, and they can be removed with very little syringing. This process never causes irritation or inflammation. Do not use too much force with the syringe; wipe the ear perfectly dry with absorbent cotton and apply petrolatum; wear a small piece of cotton in the ear for a day or two after removal. —*Phila. Med. Jour.*

Medicolegal.

Jury Not Supposed to Know Value of Medical Services.—To leave to a jury to determine the value of the professional services of a physician as an element of damages in a personal injury case, the number of his calls and consultations at his office alone being put in evidence, the fourth appellate division of the Supreme Court of New York holds, in the case of Carter vs. the village of Nunda, is error. At the most, it holds, the recovery for medical attendance should, under such circumstances, be limited to nominal damages. There is, it says, no fixed and definite schedule of charges of which a jury may take judicial notice by which the value of professional services may be determined, and their value is not a matter of such common knowledge that jurors may be permitted to appraise the same unaided by other evidence, even though such evidence would be advisory, and not necessarily controlling upon their judgment.

Admissibility of Mortality Tables.—The Supreme Court of Michigan says, in the case of Sax vs. the Detroit, Grand Haven and Milwaukee Railway Company, that it has been held in some cases that mortality tables are not admissible in negligence cases in which the injury does not result in death or permanent disability. And it says that in Texas it is held that the disability must be not only permanent, but, total, to admit of such proof, it having been stated there that, when the disability is only partial, such evidence would tend to confuse the jury. But the Supreme Court of Michigan holds here that the tables of mortality are admissible wherever the expectancy of life comes in controversy, though they are not conclusive. For example, upon the theory that the plaintiff had contracted for employment for life, and that the defendant had wrongfully refused him further employment after the expiration of four months, the court says that the jury might take into consideration the probable period of his ability to perform *services; and* the probable duration of his life would, in such case, be an element in that problem. However, in this case there were other elements to be considered than the duration of his life. The contract was, in effect, merely a contract to employ him so long as his service should prove satisfactory. On that account, the mortality tables, the court holds, should have been excluded, even if he was wrongfully discharged for another reason than *failure to give* satisfaction. The discussion in this case, the court makes do also for the case of Leach vs. the Detroit Electric Railway, where it holds, and refers to as being the doctrine of this—the Sax—case, that mortality tables are not admissible in a personal injury case where it is not shown that the injuries of a permanent character.

Mandamusing Board of Examiners.—Dean vs. Campbell *and* others was an action for mandamus that was brought to compel the board of *pharmaceutical* examiners of the twenty-sixth *judicial* district of the state of Texas to issue to the plaintiff a certificate to follow the business and *occupation of* a pharmacist. The district court sustained demurrers *to the* petition. But its judgment is reversed by the Court of Civil Appeals of Texas. The latter is of the opinion that if the *averments* of the petition were true, the plaintiff was entitled to the writ of mandamus. It says that the court is lacking in power to control the discretion of the board of examiners, but *the averments* of the petition in this case reached beyond the point of discretion. They were to the effect that the *plaintiff* passed the requisite examination according to the standard prescribed by *the* board, and that he was adjudged by *the board* as entitled to his certificate, but that the board *wilfully* and maliciously refused to issue it to him. If as a *fact in his* examination he stood the test required by the board, and it was the latter determined that he was entitled to his *certificate,* the issuance of the certificate, the court holds, then became *a ministerial* act, and the wilful failure and re*fusal to issue* it would be a wrong perpetrated upon the plaintiff, for which his remedy would lie as prayed for. To this the court adds *that it* has examined the statutes and the decisions *on the* question of jurisdiction of the trial court in actions of this character, and the conclusion reached is that, if the proper case is made by the petition, the district court has jurisdiction to issue its mandamus to require the board of examiners to perform a ministerial duty.

Medicine and Testamentary Capacity.—One of the alleged grounds upon which was based the contest of a will which the Supreme Court of Missouri, Division No. 1, was called to pass on in the case of Martin vs. Bowdern, was that the testator's mental condition had been weakened and changed by the medicines he had taken to alleviate his sufferings so that he was entirely incapacitated to make a will. He had been sick with consumption or some like affliction and had been confined to his bed from the 8th until the 23d of the month, when he died. On the evening of the 20th, he made his will. On the 8th, it appeared, he was given aromatic spirits of ammonia, to be taken in doses of 15 drops, in water, every hour, suppositories of quinin sulphate, to be used every four hours. On the 10th a prescription of carbonate of ammonia, syrup of ipecac, distilled water, and syrup of tolu was given him, to be taken in doses of a dessertspoonful every two hours. On the 14th, he was given a prescription of carbonate of creosote, spiritus frumenti, and syrup of tolu, to be taken in doses of a teaspoonful every three hours. These medicines were prescribed by his attending physician, and, prima facie, the court declares, must be held to be insufficient to impair his capacity to make a will. And as there was no testimony in the case controverting this prima facie showing, it must, therefore, it holds, be taken as conclusive that the medicines did not impair his mind. Great stress, the court adds, was laid upon the fact that the prescription of the 14th contained whisky—an ounce and a half—and that this was given to him in teaspoonful doses every three hours. But no evidence was adduced that even whisky administered in such doses at such intervals would impair, in six days, a man's mental capacity to make a will, and the court declines to so hold as a matter of law. Wherefore, the court holds that the testimony wholly failed to support this ground of contest.

Injury from Apprehension of Personal Injury.—The basis of the plaintiff's claim for damages in the case of Ward vs. the West Jersey and Seashore Railroad Company was that he was by a gatekeeper carelessly and improperly shut in on a railroad crossing while driving over same and thereby subjected to great danger of being run down and killed by an approaching train, and that by reason of the danger to which he was thus exposed, he was shocked, paralyzed, and otherwise injured. The railroad company demurred. This presented to the Supreme Court of New Jersey the question of whether, in an action for negligence, the mere apprehension of personal injuries, which are not in fact received, will support an action, when physical suffering follows as a consequence of the mental disturbance. Up to the present time, this question seems not to have been settled in New Jersey. Now, however, the Supreme Court thinks that a wise public policy requires it to hold such injuries to be nonactionable. It says that it seems to be universally conceded that mere fright from which no subsequent physical suffering results, affords no ground for action. Where personal injury as well as fright is produced by the wrongful act, the rule is also entirely settled that the jury is entitled, in fixing the damages, to consider the mental agitation as well as the physical injury. But in cases where physical injuries follow from fright, the decisions are not harmonious. Among the courts which hold that there can be no recovery for such injuries, those of Maine, Pennsylvania, New York and Massachusetts, as well as those of England, are mentioned as being prominent. The ground upon which the doctrine of nonliability rests, as stated in opinions rendered by them, is said to be that a person is responsible only for the natural and proximate results of his negligent act; that physical suffering is not the probable or natural consequence of fright, in the case of a person of ordinary physical and mental vigor; that, in the general conduct of business and the ordinary affairs of life, we are bound to anticipate and guard against the probable consequences to those who are liable to be affected thereby, but that in doing so we have a right to assume, in the absence of knowledge to the contrary, that such persons are of average strength, both of body and mind.

Examination by Unfriendly Doctor.—The Supreme Judicial Court of Massachusetts says that, in the personal injury case of Stack vs. the New York, New Haven and Hartford Railroad Company, where the defendant denied the injuries, it was permitted, two days before the trial, to send two doctors, who made a thorough examination of the plaintiff, in company with the doctors employed by him. Nevertheless, after he had closed his case, and after it had called its two doctors as witnesses, the defendant asked the trial judge to order the plaintiff to submit to an examination by another doctor named by it. The plaintiff objected on the ground that his relations with that doctor were unfriendly, but offered to allow an examination by any other physician whom the defendant might select. The defendant declined the offer, and thereupon the judge refused to make the order, ruling that he had not power or right to make it under the circumstances. Commenting on this, the supreme judicial court says that perhaps the words "under the circumstances" so far cut down the seemingly absolute denial of power in the first part of the ruling that it meant only to state emphatically the plain injustice and outrage which it would have been to make the order proposed. The judge probably was justified in assuming the truth of the plaintiff's statement that his relations with the doctor were hostile. He certainly was justified in assuming that the plaintiff had personal objections to him. When the plaintiff coupled with his objection an offer to accept any other doctor whom the defendant might choose to send, bearing in mind the large possibilities that were open by telegraph and rail, he had a plain right to have his personality respected to the small extent that he asked. So, if that was all that ruling meant, as it certainly was all that was needed to dispose of the matter, the court says that in its opinion it was right. Nor does it stop there. But it declares that if the ruling required the decision of a broader question, it agrees with the Supreme Court of the United States, the New York Court of Appeals, and some other able courts, that the power does not exist. The need of the power, it thinks may easily be exaggerated, because, if, contrary to usual experience, a plaintiff should dare to refuse a reasonable examination, it would be the subject of just comment to the jury. And, if the power should be deemed needful to a more perfect administration of justice, the remedy, the court suggests, should be furnished by the legislature. A statute empowering the court to order a view of any place in question, or of "any property, matter, or thing relating to the controversy between the parties," it holds, does not extend to the ordering of an interference with the person of a party by some one out of court, in order to enable him to qualify himself to be called as a witness by the opposing party if the latter sees fit. Moreover, the court says that it can not doubt that, as a matter of history, the power it was asked to assert was a kind rarely claimed or exercised by common-law courts. And, in conclusion, it puts decision, not upon the impolicy of admitting such a power, but on the ground that it would be too great a step of judicial legislation to be justified by the necessities of the case.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, Dec. 29, 1900.

1 *The Treatment of Tuberculosis in Sanatoria. P. H. Bryce.
2 *Hyperidrosis of the Axilla; Its Treatment with the Thermocautery. Louis Kolipinski.
3 *The Eustachian Bougie. Lorenzo B. Lockard.
4 *The Ear as a Factor in Causing Systemic Disturbance. James L. Minor.
5 *The Importance of Post-operative Treatment After Removing Spurs of the Nasal Septum. E. F. Snydacker.
6 *Observations on Nitrogenous Metabolism in a Case of Nephritis. Walter C. Klotz.

Medical Record (N. Y.), Dec. 29, 1900.

7 *Some Remarks on Medicine in 1800. George K. Welch.
8 A Case of Gonorrheal Endocarditis with Congenital Malformation of Mitral Valves. G. W. McCaskey.

9 *The Operative Treatment of Varicose Veins of the Lower Extremities. W. C. Borden.
10 *Two Unusual Cases of Aphasia with Special Reference to the So-called Naming Center. Graeme M. Hammond.

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11 *The Nitrite Treatment in Syphilis. William Browning.
12 *The Failure of the Consensus Judgment with Reference to Tuberculosis. Charles Denison.
13 *The Value of the Schumberg Method of Purification of Water for Military Purposes. John H. Huddleston.
14 *A Theory of the Physiology of Spinal Anesthesia. H. H. Stoner.

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15 Operative Treatment of Goiter. J. Collins Warren.
16 Statistics of Operative Treatment of Thyroid Tumors. Lincoln Davis.
17 *Neoplasms of the Thyroid Gland. Charles G. Cumston.
18 The Practical Use of Vital Statistics. Frederick L. Hoffman.
19 Two Cases of Perforating Duodenal Ulcer with Subphrenic Abscess. J. C. Pegram, Jr.

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20 Was Death Due to Chloroform? John Chadwick Oliver.
21 Case of Placenta Previa, with Shoulder Presentation. J. F. Irvine.
22 *Resinol Dermatitis. M. L. Heidingsfeld.

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23 Symptoms and Diagnosis of Gall-Stones. W. G. Moore.

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24 Report of a Case of Acute Yellow Atrophy of the Liver. G. C. Crandall.

American Practitioner and News (Louisville, Ky.), Dec. 1, 1900.

25 Hernia of the Bladder: With Report of Case. W. O. Roberts.
26 Treatment of Typhoid Fever. Harding K. Osburn.
27 Trephining for Head Injury. Thomas L. Butler.

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28 *A Comparative Study of the Biologic Characters and Pathogenesis of Bacillus X (Sternberg), Bacillus Icteroides (Sanarelli), and the Hog-Cholera Bacillus (Salmon and Smith). Walter Reed and James Carroll.
29 *Some Observations upon the Bacterial Self-Purification of Streams. Edwin O. Jordan.
30 On the Toxicity of Normal Urine. Melvin Dresback.

Bulletin of the American Academy of Medicine (Easton, Pa.), December, 1900.

31 Neglected Clinical Opportunities in American Medical Centers. S. A. Knopf.
32 Psychology an Essential Factor in Medical Education. William J. Herman.
33 A Few Notes Concerning the Relation of the Academic to the Medical Course. Howard F. Hansell.
34 Some Experiences of a Volunteer Surgeon in the Philippines. Harry P. Ritchie.
35 The Necessity of Expert Supervision of Medical Items Printed in the Daily Newspapers. Walter L. Pyle.
36 Physician vs. Medicine Proprietors and Medicine Patentees. A. Ravogli.
37 The Mission and Duties of the True Physician. C. F. Ulrich.
38 "Good Form" in Professional Cards. Charles McIntire.

International Medical Magazine (N. Y.), December, 1900.

39 *A Further Contribution Concerning the Efficiency of the Suprarenal Gland, Both Internally and Locally, with Reports of Cases. W. H. Bates.
40 *Paroxysmal Delirium: A Short Study in Autoinfection. W. C. Hollopeter.
41 Types of Cases Illustrating the Action of Heroin Hydrochlorid. S. L. Gifford.
42 *The Treatment of Superfluous Hair Growth. Jay F. Schamberg.
43 Indican and Ethereal Sulphates. A. Robin.

Post-Graduate (N. Y.), December, 1900.

44 Clinical Considerations upon Chancre and Cancer. Charles W. Allen.
45 The Etiology and Rational Treatment of Renal Diseases Commonly Classed as "Bright's Disease." William H. Porter.
46 The Electrostatic Treatment of Neurasthenia. William B. Snow.
47 Some Facts Regarding Anesthetics in General and Anesthesia by Intraspinal Cocainization in Particular. S. Ormond Goldan.

Occidental Medical Times (San Francisco), December, 1900.

48 A Sanatorium for Indigent Consumptives. L. Bazet.
49 *Oxycamphor—A New Camphor Preparation in the Treatment of Asthma. J. O. Hirschfelder.
50 Uremic Coma from Obstruction of One Ureter Due to a Floating Kidney—Nephrorrhaphy, Recovery. Emmett Rixford.
51 Bright's Disease and the Cardiac Hypertrophy of Chronic Parenchymatous Nephritis. J. J. Clarke.
52 Sarcoma of the Kidney in Children. Bertram Stone.

Medical Herald (St. Joseph, Mo.), December, 1900.

53 Puerperal Convalescence. A. D. Wilkinson.
54 X-Ray Diagnosis. A. C. Stokes.
55 The Treatment of Fever in Infants. H. M. McClanahan.
56 An Ascent of Old Baldy, or Mountain Climbing by a Tenderfoot. W. J. Bell.
57 The Significance of the Predisposition of Tuberculosis. John A. Hale.

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59 *Abdominal versus Vaginal Hysterectomy. Henry O. Walker.
60 Typhoid Fever. Collins H. Johnston.
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62 Complications of Specific Urethritis. William A. Hackett.
63 The Anatomy of the Fifth Nerve and Its Relation to the Etiology and Treatment of Trifacial Neuralgia. (Continued.) Edward K. Bacon.
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65 *Recent Progress and Present Problems in Pediatrics. L. Emmett Holt.
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67 President's Address, Jackson County Medical Society. A. A. Freyman.
68 Chronic Intestinal Obstruction: Report of Case. George M. Gray.
69 Aphasia. H. O. Hanawalt.
70 Something About Gangrene and Mortification, Traumatic and Pathologic, of the Extremities. Thomas H. Manley.

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71 *Antero-Posterior Subdivision of the Bladder: An Important Anomaly. Eugene Fuller.
72 Case of Brocq's Erythrodermie Pityriasique En Plaques Disseminées. James C. White.
73 Dermatitis Vesico-Bullosa et Gangrenosa Mutilans. Report of Two Cases Having a Hystero-Traumatic Origin. Grover W. Wende.
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76 *Diffuse Punctate Condition of the Fundus. Edward A. Shumway.
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78 The Relative Value of Instruments Used for Keratometry. A. D. McConachie.
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80 *Estimation of the Amount of Injury to the Earning Capacity of the Individual from Partial or Complete Loss of Vision. Howard F. Hansell.
81 An Uncommon Disease of the Cornea. (Keratitis Epithelialis Hypertrophica.) Redmond W. Payne.

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82 *The Unofficial Gynecologic Treatment of the Insane in British Columbia. Ernest Hall.
83 A Case of Jacksonian Epilepsy with Operation. Campbell Meyers.

University Medical Magazine (Philadelphia), December, 1900.

84 *Phototherapy in Cutaneous Medicine—An Account of a Visit to Professor Finsen's Light Institute at Copenhagen. Henry W. Stelwagon.
85 *Successful Removal of Cataracts in Insane Subjects, with Recovery of Mind Attending the Restoration of Sight. William C. Posey.
86 *Diet in Typhoid Fever. James Tyson.
87 Thirty-five Cases of Diphtheria in Private Practice Treated with Antitoxin. Richard A. Cleemann.
88 *The Various Rings in Heller's Nitric Acid Test for Albumin. M. H. Fussell.
89 Recent Advances in the Bacterial Treatment of Sewage. D. H. Bergey.
90 A Brief Report of a Series of Interesting Cases Recently Seen. (Shock, Internal Lesions, etc.) Alexander Marcy, Jr.

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91 Subarachnoid Anesthesia. A. N. Cokenower.

St. Louis Courier of Medicine December, 1900.

92 *Spontaneous Dislocation of the Hip Occurring During Typhoid Fever. L. A. Weigel.

93 *Early Recognition of Uterine Cancer. H. S. Crossen.
94 A Case of Latent Puerperal Convulsions, Occurring Three Weeks after Delivery, and Presenting no Premonitory Symptoms of Uremic Poisoning. T. A. Martin.
95 An Interesting Case of Extrauterine Pregnancy. Roland Hill.
96 A Case of Pseudo or Myosclerotic Paralysis. T. A. Martin.
97 Pseudo-Diphtheria Apparently Due to Micrococcus Tetragenus. Joseph Grindon.
98 Report of a Case of Malignant Jaundice. Icterus Gravis or Acute Yellow Atrophy. T. A. Martin.
99 Pus Tubes: the Abdominal Route for Their Removal, and Vaginal Route for Drainage. G. Wiley Broome.

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100 Ueber angeborene Hornhauttrübungen. A. Schapringer.
101 Beschreibung eines durch Laparotomie gewonnenen Uterus-Myoms, nebst Bemerkungen über das Verhaltniss der Blase zur Vorderflache von Beckengeschwülsten. J. Schmitt.

New Orleans Medical and Surgical Journal, November, 1900.

102 Medical Treatment in Diseases of the Kidney. L. G. LeBeuf.
103 *The Commoner Affections of the Hands and Feet, and Their Treatment. Isadore Dyer.
104 Unusual Behavior of Cornual Placental Implantation. J. G. Bouvier.
105 A Case of Rhinoplasty. G. H. Lee.
106 For Ingrown Toe-Nails. B. A. Colomb.

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107 Cremation. A. S. Bower.
108 *The Unofficial Gynecologic Treatment of the Insane in British Columbia. Ernest Hall.

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109 Tonsillitis. (To be continued.) A. Sandner.
110 Puerperal Septicemia. A. J. Mann.
111 Remarks on Gleet. Monroe Manges.
112 Preventing the Dispensary Abuse. C. Fletcher Souder.
113 Treatment of Tonsillitis. E. W. Ritter.
114 Varicocele. W. T. Parker.
115 Good Health. Geo. J. Monroe.
116 Sulphur Compounds in Chills. Benj. H. Brodnax.

Yale Medical Journal, (New Haven, Conn.), December, 1900.

117 Report on the Production of Anesthesia by Intraspinal Injection of Cocain. George R. Shepherd.
118 *The Etiology of Dissection and Operation Wounds. Leonard W. Bacon, Jr.

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119 The Timely Diagnosis of Surgical Tuberculosis. Daniel N. Eisendrath.
120 Appendicitis and Life Insurance. W. M. Harsha.
121 The Prognosis of Various Types of Albuminuria. Talbot Jones.

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122 *Some Thoughts on the Alleged Deterioration of the Human Female as a Factor in Reproduction. Park L. Myers.
123 The Sexual Phases and Crises of Women. Byron Robinson.
124 The Value of Petroleum in Wasting Diseases. D. E. Bowman.

Medical Standard (Chicago), December, 1900.

125 Myelogenic and Lymphatic Leukemia. Arthur R. Edwards.
126 Acute Respiratory Diseases. W. F. Waugh.
127 Acquired and Inherited Syphilis. Wm. S. Gottheil.
128 Pathology and Symptomatology of Typhoid Fever. J. T. Moore.
129 Inveterate Insomnia Physiologically Considered. Wm. D. H. Brown.
130 Intestinal Surgery in Middle Ages and Modern Times. Adolfo Luria.

Pacific Medical Journal (San Francisco), December, 1900.

131 The Relation Between the Anemia of Youths and Young Adults and Hyperchlorhydria. Alfred W. Perry.
132 The Subarachnoidean Injection of Cocain with Report of Cases. A. W. Morton.
133 Hysteria. Geo. Adam.

Hot Springs Medical Journal, December, 1900.

134 Some Observations upon the Ocular Symptoms in Locomotor Ataxia. Paul T. Vaughan.

AMERICAN.

1. **Sanatorium Treatment in Tuberculosis.**—The importance of early diagnosis of the disease is first mentioned by Bryce, who gives statistics showing the presence of sputum in the different stages of tuberculosis. In the sanatorium treatment two ideas are to be kept in view: the cure of the disease, and failing this, the prolongation of life, and he also divides sanatoria into the private, for well-to-do patients, and the municipal, for the poor. The points on which he specially dwells are discipline, the prohibition of discussion between patients of their cases; provision of mental employment of a suitable character; the taking of detailed family histories; the preliminary treatment of pyrexia; exercise; baths; diet, on which he remarks at some length, maintaining that the increased use of more palatable fats is advisable; the cautious use of alcohol, if at all, the use of proteids such as milk, meat, eggs, etc., up to their limit of assimilation, and massage to stimulate metabolism. Other points mentioned are the effects of reduced air-pressure, dress, symptomatic treatment, personal hygiene, and, of course, care of the sputum, etc. The most important part that the sanatoria will play in lessening the fatalities of tuberculosis is, he thinks, in their being educational centers from which persons will return to their homes and there preach the gospel of cleanliness.

2. **Axillary Hyperidrosis.**—This condition, which is sometimes obstinate and annoying, has been treated by Kolipinski by cauterization of the parts so as to limit secretion by destroying the excretory ducts. In producing these scar tissues he says a local or general anesthetic is unnecessary unless the patient is irrationally timid. The axillary base is washed and shaved. The thermocautery at a bright red heat is applied, with its flat side, from ten to twenty times to the space from which the sweat is seen to ooze, namely, the area covered by hair in the adult; the triangular groove below, when the arm is elevated, for about two inches; the posterior border of the armpit, especially at its middle, and the upper external border near the hairy center. One-half or more of the superfices is turned into burns of the second and third degrees. The cauterizing is done in a very few minutes. A dry bismuth or zinc-oxid dressing is applied, and the patient may resume his ordinary occupation in a few days.

3. **Eustachian Bougie.**—The utility of the eustachian bougie in special conditions is maintained by Lockard, and its dangers are, he thinks, very remote. Infection can be produced as easily as by catheterization. Attention to cleanliness is essential and wounding of the membrane can be avoided by due gentleness; emphysema is likely to be trifling and not important if it occurs. Perforation of the drum can occur only if great force has been used. The most serious objection is the possibility of increase in the trouble, but if, at the first sign of such an aggravation, the treatment is discontinued, no permanent harm can be done. He sums up his conclusions as follows: The bougie, except when used as an electrode, is applicable in two conditions only: stenosis and tinnitus. The therapeutic effects are uncertain; sometimes harmful, frequently beneficial. It effects its purpose in two ways; by pressure upon contracted tissue and by reflex influences upon the auditory center. It should be given a thorough trial in all cases that have resisted other procedures. Its use must be stopped upon the first sign of increase in the local trouble. If care is taken, the dangers said to attend its application will be accidents of the greatest rarity. It has a definite field in aural surgery.

4. **Systemic Disturbances of Ear Disease.**—Minor reports cases in which symptoms of meningitis, intestinal derangements, septic fever, and recurrent attacks of biliary fever were connected with aural disease and relieved by treatment of the latter. He calls attention particularly to the importance of this factor in some obscure general systemic symptoms which usually occur in cases where pus is retained in the middle-ear cavity.

5. **After-Treatment in the Removal of Septal Spurs.**—The importance of subsequent care after removal of septal projections is insisted on by Snydacker, who maintains that no one should attempt to remove a spur from the septum without explaining this necessity, and in cases where after-treatment can not be carried out the operation should not be performed.

6. **Nitrogenous Metabolism in Nephritis.**—Klotz here reports experiments on cases of nephritis to determine the effects of nitrogenous metabolism in such cases. The experiments were made in two periods of five days each, in which the results were rather inconclusive, as he admits. The loss of nitrogen was high in both, the figures for uric acid were well above the normal, and nitrogen and phosphorus showed nothing characteristic.

7. **Medicine in 1800.**—Welch reviews the condition in medicine in the beginning of the century showing the contrast with the present time. He notices particularly the death of Washington and the alleged recommendation by Dr. Dick, of tracheotomy, which was not adopted, and says that the almshouse patients of to-day have more rational treatment than the President of the United States had in 1800. He also reviews the *Medical Repository*, the medical journal of the country in 1800, and especially the paper on improvement and progress of medicine during the eighteenth century, which was contained in its fourth volume. In concluding his paper, he refers to A. R. Wallace's remark as to the progress of the nineteenth century as compared not with the preceding one but with all previous time, which is the only just comparison according to that authority. Wallace enumerates twenty-five discoveries of first rank in the nineteenth century against only fifteen previously in the world's history. Of these twenty-five, four at least were medical, and of the previous fifteen, only one—Harvey's circulation of the blood-can be included in this category.

9. **Varicose Veins.**—The subject of varicose veins, anatomy and histology of the saphenous veins, etiology of varix, which the author attributes to congenital weakness, sex and age, to exciting causes, such as organic disease of the heart, pressure, occupation, etc., the pathologic anatomy and the operative treatment are reviewed in succession by Borden. Arguing from the pathologic condition of varicose veins he advises complete excision in all cases where no contraindications are present, and following this multiple ligation, or excision combined with multiple ligation. In cases where these measures are contraindicated and the entire saphenous is dilated, he recommends the trial of the high ligation of Remi and Trendelenburg. Also arguing from the etiology, pathology, and proneness of varix to extend, he recommends early operation. There is too much tendency toward palliative treatment in this disease, under which it often extends until serious complications occur or serious operations are demanded. By early operation, while the area is small, a complete cure may be obtained, and we would then see fewer extreme cases in later life.

10. **Aphasia.**—Hammond reports two cases in which lesions in the superior and middle temporal convolutions were combined with word-blindness and inability to name objects to a certain extent. From these he concludes that the presence of word-blindness or word-deafness, whether alone or in combination, does not always imply that the lesion is to be found in the higher visual or higher auditory centers or in both, but that a lesion in any part of the speech area may so alter the mechanism of the associated speech centers that any or all the symptoms of sensory aphasia may be induced. The naming sense, he says, is yet to be found. At present it lies in the dreamlands of theory.

11. **Nitrite Treatment in Syphilis.**—Browning notices first the method by subcutaneous injection of nitrites for syphilis, and then refers to his own method based on the theory that vasodilation is required and the need of more permanent, though possibly slower action than is obtained by subcutaneous administration. He says that the nitrites are indicated in all syphilitic diseases of the arteries, as a rule in all specific affections attended by pain, in all syphilitic brain troubles, and especially in the later and hereditary forms of syphilitic disorder—cerebral, spinal, peripheral. This lumps clinical indications rather than differentiates them, but for present and practical purposes it may suffice. With these indications goes the mandate to immediately employ such other and more directly specific agents as the case demands. The title of this paper is intentionally made "Use in Syphilis," not for syphilis. It is understood that the glycerin and erythrol preparations are nitrates. But what is known physiologically as the nitrite action is developed and hence that term is used in this article. In administration he finds that the nitrites produce gastric disturbances which prevent their employment for a prolonged period and the desideratum at present is for more vasodilators at least as slow and prolonged in action as the erythrol salt and at the same time as free from gastric disorders as nitroglycerin. Administration by the mouth answered best. All these drugs are highly explosive if improperly managed, and this fact should be kept in mind when mixing, a practice not to be recommended when dealing with the nitrites. The sodium salt should be given in solution, while the sugar preparation is available in the tablet form.

12. **Tuberculosis.**—The motive of Denison's article is to point out the fallacies of the consensus of opinion of physicians as to the treatment of tuberculosis and the incorrectness of present tendencies toward home treatment. The climate treatment has its advantages, which can not well be supplied by a substitute. Another disadvantage of the consensus of opinion is the tendency to magnify the germ element and neglect the predisposing conditions. What we need is reform in the causes of human degeneration without which the germ can not act.

13. **Drinking Water.**—Huddleston reports experiments with the Schumburg method of purifying drinking water by bromin subsequently neutralized by ammonia, and finds that it is effective. He thinks that it is rapid, practicable and inexpensive, as a pound of bromin retails at from 65c to 75c, and as the amount contained in an orderly pouch, weighing only 4 pounds, can be used to purify the drinking water for a day for a regiment of 1200 men.

14. **Spinal Anesthesia.**—The theory of spinal anesthesia is first explained by Stoner, who accepts the non-continuity of the neurons and their mobility, and holds that the injection of cocain into the cerebrospinal fluid paralyzes the peripheral neuron by gaining access directly to the cell bodies. The motor neurons escape, not because their cells escape, but owing to the direction of the motor conduction and the relation of the end-plates to the muscle fibers. They can not retract their function through the muscle as can the peripheral sensory neuron, through its center organ; of course, the cortical neurons are not affected. This also, he thinks, explains the suppression of the reflexes.

17. **Thyroid Neoplasms.**—Cumston reports his experiments with thyroid neoplasms and their operative treatment, reporting briefly a number of cases. He thinks that enucleation is advisable only in those rare cases of congenital formation, and simple colloid foci, and in cases of recurrence after total extirpation of one lobe. In a large majority of cases, total extirpation is the better plan, its one drawback being the possibility of wounding the recurrent laryngeal nerve. This may occur, though apparently all precautions are taken against it. In his future operations he will follow Kocher's advice to leave a bit of thyroid tissue at this point in order to avoid the nerve. He mentions in conclusion Jaboulay's treatment of desiccation of goiter after exposing it to air through an incision, reports of which would lead him to try it in those cases where extirpation or enucleation is contraindicated.

22. **Resinol Dermatitis.**—Resinol is a proprietary or rather secret remedy used for all sorts of cutaneous diseases and extensively sold. Its effects, however, are sometimes unfortunate, as shown by Heidingsfeld's paper. He reports three cases of dermatitis traced by him to the use of this application and concludes that resinol "possesses dangerous antiseptic and anodyne properties which under favorable circumstances, be it a special idiosyncrasy of the patient or impaired vitality of the tissues, are capable of inducing severe dermatitis, if not actual necrosis of the cutis and obtunding the sensibilities to such a degree that a habit is formed so strong in nature as to cause its constant and exclusive use."

28. **Yellow-Fever Bacilli.**—Reed and Carroll report the investigations which they have been making for the past year or more in regard to the identity and character of the bacillus of Sternberg and the bacillus icteroides of Sanarelli. Their experiments and observations are given in detail and the conclusions at which they arrive are stated as follows: 1. Bacillus X (Sternberg) belongs to the colon group. 2. Bacillus icteroides (Sanarelli) is a member of the hog-cholera group. 3. The various channels of infection, the duration of the disease and the gross and microscopic lesions in mice, guinea-pigs and rabbits are the same for bacillus icteroides and the hog-cholera bacillus. 4. The clinical symptoms and the lesions observed

in dogs inoculated intravenously with bacillus icteroides, are reproduced in these animals by infection with the hog-cholera bacillus. 5. Bacillus icteroides, when fed to the domestic pig causes fatal infection, accompanied by diphtheritic, necrotic and ulcerative lesions in the digestive tract, such as are seen in hogs when infected with the hog-cholera bacillus. 6. This disease may be acquired by exposing swine in pens already infected with bacillus icteroides or by feeding them with viscera of infected pigs. 7. Guinea-pigs may be immunized with sterilized cultures of bacillus icteroides from a fatal dose of the hog-cholera bacillus and vice versa. 8. Rabbits may be rendered immune by gradually increasing doses of a living culture of bacillus icteroides of weak virulence from a fatal dose of a virulent culture of the hog-cholera bacillus. 9. The sera of animals immunized with bacillus icteroides and with the hog-cholera bacillus, respectively, show a marked reciprocal agglutinative reaction. The article is illustrated with photomicrographs and cuts showing the pathologic changes from injection of the bacillus icteroides, and in yellow fever. [See THE JOURNAL, xxxvi, p. 40]

29. **Bacterial Self-Purification of Streams.**—Jordan gives the results of a study of the chemical and bacterial conditions of the Illinois River and its tributaries, undertaken in behalf of the Sanitary District of Chicago. The results of samples taken under varying conditions at various points along the course of the Chicago Drainage Canal to the Desplaines and Illinois Rivers are also given with some observations made on some of the more important tributaries before their junction, and in the Mississippi River below the confluence with the Illinois. The tables show a very marked reduction of bacteria in specimens taken within comparatively short distances. For example in the flow of twenty-four miles between Morris and Ottawa, the river freed itself from a great mass of sewage bacteria with which it was originally laden and at Ottawa this was not greatly in excess of that found in the flow of tributary streams. The character of the Illinois river is such that mechanical agitation and aeration of the water could play but a small part in causing this effect and dilution apparently was unappreciable in this way. Nothing very definite, he thinks, can be stated as regards the action of sunlight, and such evidence as he has gathered does not warrant attaching any great importance to this factor. The influence of the plankton, or the marine life of the surface of the stream, is also still questionable, perhaps more so than that of sunlight, and reasons for this are given. In fact there was a conspicuous lack of abundant plankton life in the stretch of river between Morris and Ottawa where such notable purification occurred. More importance is attached to sedimentation, the conditions for which were nearly ideal, the fall of the river in its lower 225 miles being only 30 feet and the sedimentation still further accentuated by the presence of several dams. This settling out of suspended matter and the entanglement of bacteria in the same must have been an important agency in the reduction of the latter. Jordan remarks also that all the instances recorded in the literature where marked bacterial purification have been observed are precisely those where the conditions for sedimentation have been most favorable. The limitation of food-supply for bacterial life, however, is an element which he thinks has received insufficient consideration in the past, and in this he thinks is the most reason for the bacterial self-purification of streams. The excessive removal of bacterial food from the water probably is due largely to the bacteria themselves, and they explain this fact. There is no accumulation of foul mud in the bottom of the river, notwithstanding the fact that sewage has been poured into it for 35 years. The solid matter, therefore, is destroyed either in suspension or after sedimentation. The river as a whole can be considered a great septic tank for bacterial purification. [See editorial pages.]

39. **Suprarenal Gland.**—According to Bates the extract of the suprarenal gland is the best hemostatic known, and while powerful is not objectionable in any way. It is the most powerful known astringent; the only one which can be instilled in all diseases of the eye without injury. It is the most valuable remedy for ear inflammation and improves the hearing when applied to the Eustachian tubes after other treatment has failed. For the nose and throat there is hardly any substance that we are acquainted with which has so many beneficial, and so few deleterious effects. Its use in hay-fever, edema, Graves' disease, edema of the glottis, acute and chronic bronchitis, asthma, pulmonary congestion and edema, hemoptysis, etc., are mentioned at length and he claims that it is the most powerful known heart stimulant. In three minutes after 5 grains of the dried gland have been swallowed, the weak pulse of organic heart disease becomes stronger and the high-tension pulse of the laboring heart becomes regular. The normal heart is not embarrassed by an ounce of the powder. He says in conclusion: "Let me repeat that the suprarenal extract is the most powerful astringent, hemostatic and heart stimulant known. The field of its usefulness is rapidly widening. It is a safe remedy, and the reason why no bad effects have followed its administration is because we are using as a drug one of the secretions of the body which is necessary to life.

40. **Paroxysmal Delirium.**—Under this head Hollopeter reports several cases of delirium apparently due to autointoxication from the intestinal tract in children, and offers the following as a brief summary of his views. 1. The fever incident to intestinal autointoxication has no classified train of symptoms, varying in intensity and regularity according to the nervous mechanism and heredity of the child. 2. The symptoms manifested by autointoxication affect the nervous system so variously, that it is a question whether a classification based on the localization of the seat of intestinal irritation can ever be brought about. 3. The symptoms manifested by intestinal ptomains express themselves in symptoms suggestive of typhoid fever, meningitis, and malarial fever, so frequently, that without differential diagnosis, many cases are thus treated.

42. **Depilation.**—The use of the electric current to remove superfluous or misplaced hairs is described by Schamberg, who makes one or two suggestions. He advises against the use of the steel needle, as reversal of current may produce a deposition causing a tattoo mark. He uses the iodo-platinum needle, as a reverse would not make any difference. He also considers that it is not advisable to attempt to remove a fine growth of dark hair from the upper lip of young brunettes, but instead to prescribe some bleaching agent such as hydrogen dioxid which causes the hair to lose its color and become less conspicuous. There is also some reason to believe that the continued use of this agent may ultimately weaken the hairy development.

49. **Oxycamphor.**—This preparation, which is oxidized camphor, in which one of the hydrogen atoms has been replaced by the hydroxyl molecule OH, was first prepared by Manasse, of Munich, who found that its physiologic action was quite different from pure camphor, as it was an excitant, did not alter the blood-pressure, but decidedly influenced the respiration. Hirschfelder found it beneficial in the treatment of asthma, though in some unsuitable cases it has failed to have the slightest effect in spite of vigorous dosage. In one case it seemed to bring on the attack. The preparation which is sent out by the manufacturer as oxyphor contains 50 per cent. of oxycamphor, and this may be given in doses from ½ to 2 drams. He has been in the habit of prescribing it dissolved in simple elixir in the strength of 1 to 7. He has reports from Dr. Graves that it has been decidedly beneficial in whooping cough of children in doses of 5 to 30 minims of oxyphor. He says, "To sum up our experience with the drug, it is safe to say that we have in it a valuable addition to our pharmacopeia, one that we can safely use to take the place of various narcotics in the treatment of different forms of dyspnea."

58. **Diabetes.**—According to Vaughan, diabetes mellitus is a name used to designate the fact that the body has lost more or less its function of normally metabolizing carbohydrates. *According to this definition, diabetes and glycosuria are by no means synonymous.* The capability of the individual for the utilization of carbohydrates is limited. A healthy working adult thrives best upon from 18 to 20 ounces of carbohydrates daily, while he may dispose of two to three times this amount, for a time at least. It is not probable that the healthy man

can take enough starch to cause sugar to appear in his urine, but with less complex carbohydrates, the facts are otherwise and a temporary glycosuria can be induced by an excess of sugar. This, however, does not occur very often. The tests for sugar are reviewed and the necessity of the greatest care in making these emphasized. The class of foods, proteids, fats and carbohydrates and the proportion of each required by a normal man are enumerated and Vaughan lays down the diet tables for a case of diabetes, which differ from those usually given in that they contain relatively more fat and less proteid. He thinks that proteid feeding is overdone in this disease and it frequently happens that the sugar decreases by cutting down the proteids. The diet is arranged for a regular progressive course of seven days, and when the fully non-carbohydrate bill of fare of the last day is reached it should be continued for at least five days. the urine being tested during the last two. If the sugar disappears under the non-carbohydrate diet the case belongs under the head of mild glycosuria, but if it persists, the severe form may be said to be present. If it is the former, we must determine to what extent the patient has lost the power of utilizing the carbohydrates in his food and try the tables given in inverse order for five days and test the urine regularly until the sugar reappears. Having thus ascertained the amount of carbohydrates he can utilize, a steady diet is fixed. In those cases which continue to excrete sugar under non-carbohydrate diet. after the last days of the series, the dieting becomes a very serious matter and Vaughan thinks it best to insist that a non-carbohydrate diet should be followed one week out of every four. The short and frequent periods are more easily borne by the patient and are more beneficial to him. During the interval from 100 to 120 gm. of white bread or its equivalent should be allowed daily. These cases are incurable with present means, and the best we can do is to prolong life.

59.—See abstract in THE JOURNAL, xxxv, p. 1046.

65. **Problems in Pediatrics.**—In this address the subjects taken up by Holt are the present status of diphtheria antitoxin, in which he shows the advance and great success in the treatment since the introduction of this agent; next Koplik's sign in measles, which he finds to be characteristic of this disorder and valuable in diagnosis, though not sufficient to enable us to recognize the disease before the possibility of infection to others. Milk sterilization and infant feeding, with the milk-supply of various cities are also discussed at considerable length. He believes that we need to educate parents in the conditions that are essential to life and the normal development of their children and to reduce susceptibility by increasing resistance.

71. **Antero-Posterior Subdivision of the Bladder.**—Fuller reports a case of transverse division or contraction of the bladder anteriorly to the urethral openings, dividing it into two parts. Two cases were observed by him, in both of which uncomfortable symptoms of increasing difficulty of urination began in early life and finally ended in retention. In both cases, it is true, urethral stricture existed, the cause for it in the first case being obscure, and possibly due, as he says, to long-continued vesical tenesmus. In both instances, however, it appeared to be insufficient to account for the retention. The first case was relieved by cutting through the vesical portion of the lower margin of the aperture opening between the two chambers down to the vesical floor, the assistant holding his finger in the rectum and maintaining steady upward pressure under the partition, while a pair of heavy serrated scissors were introduced through a suprapubic opening. dividing the partition wall down to within a quarter of an inch of the assistant's finger. After dissecting apart the cut edges of the partition as much as possible with the finger introduced from above, a large peritoneal drainage-tube was inserted and maintained between the cut edges. Temporary suprapubic drainage was also established. The recovery was uneventful and cure complete.

76.—See abstract in THE JOURNAL, xxxiv, p. 688.

80. **Visual Defects as Effecting the Earning Capacity.**—The conclusions at which Hansell arrives from his discussion of the amount of injury to the earning capacity of the individual by visual defects are stated as follows: Blindness is that degree of loss of vision that incapacitates one from earning his living in any occupation requiring the use of the sense of sight, the degree varying according to the demands of the occupation. Vision of less than one-half diminishes the earning power and the less the vision the greater the loss of the earning power. Monocular blindness is not incompatible with full earning capacity. The loss of earning power owing to defective vision may be computed according to a simple system based upon the ratio of the loss of vision to the full earning capacity at any age and in most occupations.

82.—See also title 108.

84. **Phototherapy.**—Stelwagon describes his personal observations of Finsen's method of treatment. The results are good; of this, he says, there can be no question. There are some disadvantages in the treatment of cutaneous tuberculosis, which is the form of disease there treated, the chief one being the duration of the treatment and the cost of apparatus, expense of treatment and close attention required. The principal criticism, however, made by those who have visited the institute and studied the method is that, in the mild and moderate cases at least, as rapid results can be obtained by other plans which have long been in vogue and are less expensive. His experience in the treatment of lupus in Philadelphia justifies this criticism. He thinks, however, there may be a difference in the type of disease to some extent. American skins do not seem to be so easy a prey to tubercle infection and the disease is here milder and more amenable to treatment than most of the European cases seem to be. It is probable, moreover, that, with further improvements, the light treatment may be made simpler and less protracted and expensive.

85. **Cataract Operations and Insanity.**—Posey reports two cases in which removal of a cataract in chronic insanity produced a rapid and complete cure of the mental disease. In both cases there seemed to be, from the history, a direct relation between the mental disease and the visual failure, and this may account for the success.

86. **Diet in Typhoid.**—In the majority of typhoid cases milk is the safest and most satisfactory diet, and Tyson does not favor the use of the soft foods which have been advocated by certain authorities. He does not, of course, hold exclusive opinions on this subject. He admits that under certain conditions animal broths and albumin water, consisting of the white of an egg mixed with water, may be used as a substitute. The objection to animal broths that they are specially favorable culture-media is, he thinks, overestimated. If given fresh they should be sterilized by heat, and it is doubtful whether any food does not become a culture-medium in the stomach. In case of hemorrhage, an immediate reduction in the amount of food should be made. It is better for some time to give no food at all, though in an uncomplicated case he gives from 4 to 8 ounces of milk every two hours. In case of peritonitis the indication for the arrest of peristalsis exceeds all others and this can be secured in no better way than by total omission of the food. Where total cessation does not seem necessary, the quantity can be very much reduced—one-half ounce or one ounce every two hours until the danger is passed. In convalescence he lays down an arbitrary rule which he thinks is on the safe side, namely, adherence to liquid food until the temperature has been normal for a week. After that he allows soft boiled eggs, and in two or three days soft milk toast and other soft foods are added from time to time until a reasonable mixed diet is taken. Chicken is one of the foods last allowed.

88. **Heller's Albumin Test.**—Fussell describes the various rings observed in Heller's nitric-acid test for albumin and concludes his article as follows: It would seem after these observations and the demonstrations that in making Heller's test three rings are formed: 1. The color ring. This ring forms in practically all urines, whether there is albumin present or not. It is specially marked in concentrated urines rich in

coloring matter, and in the urine of patients taking iodid of potassium or salol, or indeed any of the coal-tar products. It is at the point of contact between the acid and urine. 2. The white zone of albumin which forms at the line of contact between the urine and the acid, but always above the dark, constant, color ring. This ring is of a densely opaque white, and I think this is especially the fact when there is but little coloring matter in the urine. If there is a small amount of albumin present, however, as in urine containing pus, the ring is less dense, but nevertheless in close contact with the layer of acid and immediately above the color ring. 3. The urate ring, which forms high above the albumin ring, if albumin is present. The color ring forms at the line of contact of the acid and urine, and the color usually disseminates into the acid below and sometimes into the white albumin ring above. It is always below the albumin ring. The white albumin ring also forms at the point of contact of the acid and the urine; it is wholly in the urine and always above the color ring, though later on it may be somewhat discolored by it. The urate ring, a white thin zone, quickly forms, is far above, sometimes one-quarter or one-half inch above, the albumin ring, and is easily dissipated by heat.

92. **Hip-Dislocation in Typhoid.**—Spontaneous dislocation of the hip in typhoid fever, though comparatively rare, has some literature and has been noticed at length by Keen in his "Surgical Complications and Sequels of Typhoid Fever." Weigel reports a case in a girl 8 years of age, which caused considerable difficulty in its treatment, and still remains dislocated. He thinks the recurrence of luxation can not be attributed entirely, if at all, to relaxation and distension of the tissues and lack of suction power of the joint. He is inclined to think rather that the gradual lengthening of the ligament and distension of the joint-capsule permitted the head of the femur to slip out of the acetabulum without producing a rupture of the structures, which were simply carried upward, and when the joint was restored, the capsular ligament became folded on itself and prevented a perfect replacement. He has had a partial improvement in the case reported, the limb is better and stronger and more useful in every way than if nothing had been done.

93. **Uterine Cancer.**—After remarks on the diagnosis of malignant uterine disease, Crossen gives the report of a number of questions which he submitted to Dr. Carl Fisch, the pathologist, and their answers. 1. As to whether a positive diagnosis of carcinoma or sarcoma can be made from uterine scrapings, which is answered in the affirmative, though difficulties may arise in malignant adenoma. 2. Can malarial disease be excluded by such examination? Also answered in the affirmative. 3. Does malignant disease from the body of the uterus always involve the endometrium in the early stage so that a diagnosis can be made of the scrapings before the tumor has passed beyond the reach of radical operation? The reply to this question was that unless there is a degeneration of the myometrium without involvement of the mucosa or settling of a metastasis from another tumor, and in cases of carcinomatous degeneration of fibromatous uterus, the scraping should reveal the condition. As regards the early diagnosis of these exceptional conditions, the examinations of scrapings would, of course, yield only negative results. 4. Do fibromata really undergo malignant degeneration, and if so, is it carcinomatous or sarcomatous, and at what age does it occur and how may we know of the occurrence of the change? The reply to this was that fibromyomata frequently undergo malignant degeneration, the result being nearly always sarcomatous, though myxomata and even chondromata forming metastases are often observed. These changes are most frequent at the menopause, though they may occur earlier, with great thickening and enlargement of the uterus in some cases and marked thinning and dilatation in others, sometimes with the formation of pyometra or concomitant signs. The early stages can not be reached by direct examination except where a tumor is removed for other reasons. This sarcomatous change may remain latent for a long time, to light up with great intensity after some injury.

103. **Hands and Feet Affections.**—A patient suffering from the commoner affections of the hands and feet is hardly likely to think of a medical practitioner as a resource for relief. The average layman, or laywoman, gets the idea that the physician's work does not go beyond a bad complexion and similar affections. Barbers, druggists and especially chiropodists and manicurists have become specialists in this line, to the damage of their clients, and in this article Dyer directs attention to what we call the commoner affections of the hands and feet, viz., corns, bunions, warts and diseases due to the sweat-glands. In the summer many people complain of the hands and feet perspiring, and this may often result in a chronic condition of hyperidrosis and is often complicated with a tendency to inflammation, causing much pain and possibly confining the patient to bed. The condition is apparently easy to treat. 1. Advise the use of white castile soap and restrict excessive drink. Give a small dose of strychnia internally for a long period, about six weeks. For the hands, the use of a 3 to 5 per cent. alcoholic solution of salicylic acid frequently during the day; for the feet, a like remedy in powdered form, viz., salicylic acid, ½ dram; tannin, 1 dram; powdered arrowroot and rice starch, of each half an ounce, dusted in the stockings every day. Where the feet are inflamed and not blistered, simple bathing for 20 to 30 minutes in hot water with 4 ounces of laundry starch to the gallon should be of service before the use of powder. In the more chronic condition lead water may be used on cloths applied at bedtime, and if the blisters suppurate, nothing relieves better than a 5 to 10 per cent. solution of ichthyol. The commoner conditions of the nails of the hands and feet are: ingrown nails, run-arounds, hangnails, horn-nail and felon. The hangnail often causes paronychia, and as often the felon. It should be held in place and collodion painted over it. When infection occurs, touch the spot with carbolic acid and mop afterward with alcohol, or touch it with nitrite of silver. If the infection goes further, nothing is so good as a 1 to 1000 bichlorid dressing kept constantly wet, which often aborts felons and is much better than the soap and sugar and other compounds of household practice. The ingrown nail can be treated by scraping a notch and clip to keep the flesh away from the nail. In severe cases it may require the removal of a portion of the nail and redundant skin. Warts will almost always disappear under daily painting with salicylic acid in collodion (5 per cent.) solution, excepting in the acuminate type. Other remedies which he uses are formalin solution, corrosive sublimate, and sulphur. Corns and bunions are sacrifices to civilization and the original conditions are relieved by the wearing of properly adjusted shoes and protecting the part with a simple cotton and collodion dressing. A useful and convenient remedy is tincture of iodin. Bathing in starch water is also advisable and should be practiced twice a day. He speaks in condemnation of the commoner practice of letting chiropodists work on the feet with a knife that is always unclean, helping only to promote disease and the practice of the operator. For the soft corn between the toes, ordinary greasing and putting a film of cotton over it usually will suffice. Salicylic acid plaster, 10 per cent., is useful for flat corns not especially painful. Most of the local applications are suitable, but the above seem to be the ones here specially recommended.

108.—See also title 82.

118. **Dissection Wounds.**—Bacon discusses the etiology of dissection and operation wounds, considering first the nature of the infecting microbe, and second the effect upon the virulence of the source from which it comes. The foremost place as an infecting agent must be assigned to the streptococcus pyogenes and the next to staphylococcus pyogenes aureus. It is probable that all the well-recognized pyogenic germs may, under favorable circumstances, give rise to more or less virulent septic processes when inoculated, but the author does not have at hand the reference to such cases. The anthrax bacillus is one that might be likely to produce a condition that would probably come under the title of his paper, also the bacillus of malignant edema. The tubercle bacillus is notoriously the cause of infection in the so-called "anatomical tubercle," and

while he has not found records of general tubercular infection from these causes, he thinks they are possibly not uncommon. Other germs mentioned are the diphtheria bacillus, the virus of syphilis, etc. The effect upon the virulence of the infecting germ of the source from which it is derived is discussed at some length and he points out that there is a comparative difference as regards the danger of the wound at a recent, with one received at a delayed, autopsy, which is due to the bodily warmth and the lack of development of defensive proteids in the dead subject. The chilling of the body and the beginning decomposition of the tissues and struggle for existence with saprophytic bacteria probably so affect the environment as to make it a less suitable culture-medium for the virulent pyogenic germs.

122. **Female Deterioration.**—The question whether the alleged deterioration of the human female as a factor in reproduction is a fact, is treated by Myers, who says that the toiling woman, with her interfering muscularity, may show equal deterioration with her overstrained sister of leisure. The intellectual woman need not fear maternity if she is able to let her intellect lie fallow long enough for her system to be stored with the necessary commissary supplies. But he thinks there is a constant tendency to mend matters in the natural processes of nature. The question of clothing, habits, education, etc., are also mentioned in their alleged effect upon deterioration.

FOREIGN.

British Medical Journal, December 22, 1900.

Quantitative Color-Tests. KARL GROSSMAN.—The defects of the Holmgren test are pointed out by Grossman, who shows how central scotoma may affect the quantity of color-perception according to the area of scotoma. Vision may be perfectly good at short distances, but, for this reason, fails at greater ones and a serious accident might follow. For the purpose of detecting such defects he has devised an instrument consisting of colored glasses used with transmitted light of varying power, thus putting the individual under conditions such as he meets in his occupation as seaman or railway employee. The rotating disc contains plates of clear and colored glass with an arrangement for varying apertures and size from 10 mm. to pin-point and intensity from light to dark, thus offering an unlimited variety of lights, both colored and white. The apparatus may serve as the basis for the adoption of a standard for the quantitative measure of color-perception, as by it the smallest central scotoma can be detected.

Remarks on Chronic Enlargement of the Pancreas in Association With Or Producing Attacks Simulating Biliary Colic. GILBERT BARLING.—Three cases are reported by Barling, which had the common feature of enlargement of the head of the pancreas with attacks of colic and more or less complete blocking of the biliary duct. On account of the thickening of the head of the pancreas, it was impossible to say with certainty that pancreatic calculus did not exist, though none could be detected. In two of the cases there was an ill-founded diagnosis of gall-stones. In the other, two gall-stones existed and possibly, by inflicting damage on the common duct in their passage, directly induced the pancreatic inflammation. It is impossible, at present, he thinks, to make a positive diagnosis between certain affections of the biliary apparatus and chronic inflammation of the pancreas. If operation is required, however, it is fortunate that the same steps have to be taken in either condition. If the situation calls for operative interference with pancreatic enlargement of this kind, two methods of treatment offer themselves: very prolonged drainage of the gall-bladder is the method usually employed after cholecystectomy, or anastomosis between the gall-bladder and duodenum. In the second case reported drainage was employed and seems to have acted beneficially on the pancreas. In the fourth case the gall-bladder was joined to the duodenum, with resulting cure of jaundice and other symptoms complained of, though there was still some enlargement of the pancreas. He thinks that these cases suggest a more hopeful explanation of the occurrence of thickening of the head of the pancreas with jaundice than has hitherto been held possible.

Some Points in the Treatment of Spinal Abscesses. A. H. TUBBY.—The following points of treatment in cases of spinal abscess are emphasized by Tubby: 1. Do not wait to open a spinal abscess until the skin is reddened and involved. 2. As far as possible open the abscess at certain "seats of election," the places of evacuation to be decided by the direction taken by the abscess and by the surgeon. 3. Wherever evacuation is decided on, let it be done as far as possible away from the groin, and in such a position that more than one opening can be made into the abscess cavity. 4. Carefully cleanse the cavity and rub the interior thoroughly with menthol or iodoform solution. 5. Avoid drains of all kinds. 6. Be careful to carry out perfect aseptic measures from first to last. He enlarges upon these respectively. As regards the "seat of election" he mentions a case where by waiting, the abscess enlarged in its femoral portion and outward from the abdomen, under treatment by prolonged rest. This multiple opening was employed, with recovery. The importance of making more than one opening of the abscess and sac away from the groin as a cardinal point, is emphasized in the treatment of these cases. Evacuation is likely to be more complete, pockets of pus not so likely to remain, and all parts of the cavity can be brought within reach of the sharp spoon, the irrigator and the cleansing sponge. Applications to the sac-wall are also rendered more easy, and the greater the number of incisions that can be made without risk, provided they are all sewn up after the operation, the better will be the result.

The Lancet, December 22, 1900.

Pulmonary Tuberculosis in Early Childhood. ARTHUR LATHAM.—Latham holds that the majority of cases of tuberculosis in infancy are more probably due to infection through the digestive tract by milk than to air infection, and he says in support of this view that the whole picture of pulmonary tuberculosis in children differs from that in adults. In children the process is usually acute, the seat of infection and the breaking down of tissue is comparatively seldom reached. We often find tuberculosis in the bronchial glands while the lungs are practically unaffected, which is hardly ever seen in adults. He, therefore, holds that the disease is communicated through the lymph-glands in infants, though in the adult aerial infection is undoubtedly most common. The clinical varieties of pulmonary tuberculosis in children are numerous. Until the child is 3½ years of age it is a common development from infection of the bronchial glands and spreads from these glands to the lungs rather than from the lungs to the glands. After the age of 4 years the lesion found becomes more and more comparable with those in adults. The conditions which he found up to the fourth year he classified as follows: 1. Tuberculosis of the bronchial glands, which may lead to no special symptoms, and the diagnosis of this condition is described, especially the cough, alteration in the voice, venous hum, pressure symptoms, etc. Similar enlargements from other causes are much less frequent than from tuberculosis and these points will enable us to differentiate. 2. Miliary tuberculosis is rare in children excepting in cases of general tuberculosis. The general symptoms always precede the localizing ones; the latter may be absent. The child gradually wastes and this is followed by general malaise, anemia and anorexia. In most of these, however, digestive disorder is not prominent. The progressive wasting with slight fever arouses suspicion and this becomes assured by definite localizing symptoms as the time progresses. The differences between marasmus, typhoid fever, congenital syphilis, etc., are described. 3. Tuberculous bronchopneumonia, which may be either acute or chronic. In the acute cases there may be nothing to justify the diagnosis of tuberculosis, but in many cases, toward the end, we have evidence of meningitis. In the more chronic form, we have the initial stage with general symptoms followed by development of pulmonary signs and symptoms. Hemoptysis is rare, as are also signs of associated pleurisy. The disease is rarely arrested, but generally proves fatal in from one to six months. Diagnosis from simple bronchopneumonia is always difficult. The insidious onset is one of the special symptoms. If the attack begins with acute symptoms in previously healthy c dren bronchopneumonia is nine times out of ten non-tu lous. The appearance of the child may help us, but Latham remarks on a copious crop of downy hair being frequently found on the back of children who become tuberculous. The family history and associated enlargement of the bronchial glands or tuberculous disease elsewhere is of importance, and if we can get the sputum, all difficulties may be solved. Children mostly swallow their sputum, and in children under 6 years of age, if expectoration is profuse, it is probably tuberculous. Sometimes a gentle emetic may aid us in obtaining a small mass of purulent matter which reveals definite evidences. After the fourth year, and still more after the sixth, the type conforms more to that of the adult, but there are some differences. There is not the same tendency to begin at the apices and extend downward nor to form fibrous tissue. Extensive excavation is less common; hemoptysis and laryngeal complications are rare; pneumothorax is rare and not infrequently meningitis ends the scene. The physical signs are of less importance in children than in adults; a cracked-pot sound may be of no importance whatever. The prognosis in any form of tuberculosis is grave. Tuberculosis of the bronchial glands with marked pressure is also serious and the same is true in tuberculous form of general bronchopneumonia. The cases where the processes start during acute stages of measles or whooping cough are unfavorable, but when the tubercle bacilli are grafted on to the ordinary bronchial pneumonia which follows these diseases, the chances are better. The prognosis should be guarded, as many patients who seem hopelessly ill, get well, and sometimes where the disease appears to be quiescent, they succumb to a trifling ailment. In the adult type occurring in children, the prognosis is more favorable and frequently when taken early these patients do remarkably well. The aim in the treatment is to prevent further infection. Other measures to be adopted must follow the general lines of treatment of the disease in the adult. Fresh air, sunlight, precautions against cold and fatigue, equal temperature, a small amount of stimulants sometimes, cod-liver oil and small doses of other ordinary drugs, such as quinin, creosote, etc., are also occasionally of value. The symptoms can be treated as they arise.

Observations on Compressed-Air Illness. Frederick R. Wainwright.—The writer reports his experience with caisson disease in the Waterloo tunnel works of London, where, considering the pressures employed and the length of shifts, there were remarkably few cases of illness. The men were carefully examined before allowing them to work, the average age being just over 30. During a period of over five months, only 47 cases of illness due to the work came under treatment, in 40 men out of the 120, two having three attacks each and three having two. These figures include only cases of sufficient severity to call for treatment. Most of the men were free users of alcohol. The symptoms are described: Pain in the ears, joints, epigastric pain, vomiting, headache, dizziness and paralysis in one case, with no fatalities. The most important points in the diagnosis are the time and manner of the onset. He would not admit a case to be due to compressed air where more than twelve hours had elapsed between the time of leaving work until the onset of symptoms. Rheumatism and osteoarthritis are not likely to be mistaken for joint pain of compressed-air illness. The absence of any rise of temperature in the latter, together with the sudden onset and the freedom from physical signs, serves to define it. He considers ventilation an important preventive agent, the amount of carbonic acid present being a prime factor in the etiology of the disease. Of the pathologic theories, he accepts that which attributes the condition to supersaturation of the blood with gases due to compression, and he thinks that carbonic-acid gas is observed in the greatest amount. He has never been able to discover any remote effects. In one man, 42 years of age, who had worked in compressed air for varying periods during several years, there was marked arteriosclerosis apart from any cardiac or renal disease which could be discovered. Whether this was due to the occupation or not he could not say. In the great majority of cases only one treatment is necessary, and that is recompression with slow locking-out or reduction of pressure. For this purpose a medical air-lock was erected and utilized. The amount of pressure needed for relief depends more on the severity of the case than on the original pressure which produced the symptom. Decompression must be slow. He would not reduce pressure quicker than at the rate of 1 pound in three minutes. In his experience this never failed to stop the pain, though there are exceptional cases where the latter returns. This, he thinks is due to the creation by the first attack of a *locus minoris resistentiæ* which renders the passage of air into the tissues easier than escape by way of the respiratory system. In these cases he uses morphin hypodermically in fairly large doses.

Presse Medicale (Paris), December 12 and 15.

Mechanism of Spinal Cocainization. Tuffier and Hallion.—Extensive research on dogs has demonstrated that the anesthetic action of subarachnoid injections of cocain is due exclusively to the cocain. This specific action affects the spinal roots, and is almost exclusively confined to them. This refers solely to the anesthetic action. Certain by-effects may possibly be due to the diffusion of minute amounts of the cocain to the nerve cells of the cerebrospinal axis.

Cultivation of the Microbe of Soft Chancre. Bezançon.—The writer announces that Ducrey's bacillus grows readily on gelosed blood.

December 15.

Localization of the Lepra Bacillus. E. Jeanselme.—The writer has returned from a special expedition in the Orient, undertaken for the purpose of studying leprosy. He is convinced that bacteriologic examination will prove of great assistance in dubious diagnoses of leprosy, but warns that the bacilli, after having invaded the entire organism, may disappear completely, merely leaving a sclerosis in their track. The chief localizations are the nasal and bucco-pharyngeal mucosa, but all the secretions and even the excretions may be virulent, except the urine, which does not contain bacilli. Prophylactic measures should therefore aim to sterilize the nose, mouth and skin, with occlusion of all ulcerations and compulsory disinfection of garments, linen and all vessels, etc., used. The child of a leprous woman should be taken away from her immediately after birth and never given to another woman to nurse.

Sodium Bicarbonate for Dressing Wounds. J. Casteret.—In all cases in which the vitality of the tissues requires to be stimulated, the bicarbonate has proved the best of all dressings in Casteret's experience with 300 patients during the past two years. In case of moderate suppuration and superficial traumatism it is more effective associated with antiseptics. In severe suppuration or mortified tissues the bicarbonate should yield place to antiseptics, but when the process of repair commences it becomes useful again. The purulent focus is copiously irrigated with an antiseptic solution, after which the bicarbonate dressing is applied. This antiseptic irrigation is repeated each time the dressings are changed. The solution used is 20 to 60 gm. per 1000, and the dressings kept moist. An abscess heals in ten to fifteen days under this treatment and the effect is surprisingly satisfactory in superficial traumatisms, varicose ulcers and burns, lymphangitis and certain dermatoses in which the indication is merely for a stimulation of the vitality of the tissues.

Revue de Gynecologie (Paris), iv, 5.

Treatment of Metritis. Pozzi.—Acute or chronic metritis of the cervix may occur independently of any lesion of the fundus, but it is rare. If it persists it is liable to compromise the nutrition of the entire genital apparatus. Medical treatment may be sufficient in the early stages, and should certainly be tried, but surgical intervention should be sought before the lesion has become propagated by the mucosa and lymphatics. The most prominent symptom is the persistent subinvolution of the uterus and dilatations in the venous system from the chronic congestion of the organ. The ovaries frequently become affected in turn, small cysts developing in the follicles, with hypertrophy and apoplexy of the corpus luteum and pain in the lumbar region. This condition resists all medical treatment and even amputation of the cervix has little effect on the ovaritis at this stage. Pozzi considers laceration of the cervix almost the rule even in normal accouchements. Any lesion of the cervix acts like a thorn in the flesh, irritating the trophic nerves and entailing vasomotor disturbances. Removing the thorn by amputating the cervix puts an end to the congestion and pain. Since lesions of the cervix have such serious and far-reaching consequences, it is imperative to cure them in the early stages. The first indication is asepsis of the vagina with a dressing over the cervix to isolate it from the remainder of the region in case of gonorrheal infection, and collect the secretions. Antiseptic injections are also necessary, and if indicated, application of silver nitrate, iodin or creosotal to the ulcerated surface, or possibly yeast. The thermocautery and curette are inadequate and unreliable. Excision is the only treatment for an inveterate lesion of the cervix, followed by immediate occlusion of the wound by suturing the flaps over it. He prefers biconical amputation with complementary *évidement* or scooping out of the commissures. Sclerogenic lacerations especially indicate operation and the fibrous irradiations should all be followed and removed. By suturing the commissures afterward, the external to the internal mucosa, all tendency to stricture is obviated. This operation not only removes the cause, but acts indirectly on the involution of the fundus and on the ovulation. Backache and dysmenorrhea gradually subside. Another variety of metritis occurs in nulliparæ from narrowness of the orifice of the cervix interfering with the drainage. It requires stomatoplasty by *évidement* of the commissures with consecutive asepsis, antisepsis and exeresis as outlined above. In case of very mild infection and hyaline catarrh it is unnecessary to excise tissues only slightly altered.

Semaine Medicale (Paris), December 12.

Spinal Cocain Analgesia. T. Tuffier.—An experience of thirteen months with this method of analgesia, which Tuffier has applied in 252 operations, has established that there are no symptoms of shock and that the patients return more rapidly to the physiologic condition than after general anesthesia. The analgesia is complete and sufficiently durable, while careful study of the patients during and after the operation shows that there is no injury to the medullary system, either immediate or remote, nor local operative complication. From the moral point of view he has always found the most complete indifference to the operation, especially in men and in private practice. As he has mentioned in his previous reports, one patient died during the day following an operation for eventration. The autopsy disclosed old and severe cardiac lesions, with congestion and edema of the lungs, rendering the fatal termination inevitable. This is the only death that has occurred in his experience. In 20 per cent. of his cases the analgesia proceeded without the slightest subjective or objective symptoms. In 40 per cent. nausea occurred, and he has remarked that this is most liable to happen in cases with slight tension of the cerebrospinal fluid. When the fluid escapes like an ejaculation there is a minimum of incidents, but when it merely trickles. the analgesia will be as complete, but is liable to be accompanied by some annoyances. Nausea is much more frequent after large doses, 25 to 30 mg. A general slight malaise is sometimes observed, commencing about five minutes after the injection and never lasting more than fifteen minutes. Vomiting occurs from five to fifteen minutes after injection in 20 per cent. It is more frequent in men than in women and much more frequent in urgency operations when the subject has not been prepared. Tuffier is hopeful that research will suggest a means to abolish the vomiting in these cases. The subject rarely vomits more than three or four times, but in three cases vomiting recurred a number of times, including one case in which eucain had been used. He now rejects all substitutes for cocain. The brain is not affected and the muscles are completely relaxed, as in chloroform anesthesia, although the power of movement is retained, but the movements are less precise than in the normal condition. The rhythm of the heart is not altered. but the pulsations sometimes become more frequent. In 30 patients the pulse was 80 at the close of the operation and it has been known to reach 120. The respiration continues physiologic. there is no hypersecretion nor congestion in the bronchi. but the inspirations are sometimes deeper. In 5 per cent. of his cases there was incontinence of gases or fecal matter. As the mucosa of the rectum becomes insensible the anus misses the reflex tonicity and is liable to relax under the influence of a violent effort, pressure on the rectum during the ablation of a retrouterine tumor for instance. The urethrovesical apparatus is not affected in the least. The patients are completely tranquil and in perfect condition during the day following the operation. The only incident is an exceptional vomiting, which may occur three or four times, about four hours after the intervention. During the afternoon or evening the most disagreeable and frequent incident, the headache, is liable to appear. Tuffier has observed it in 40 per cent. of his patients. It resembles migraine in character, but does not coincide with the vomiting, and in 90 per cent. was almost completely gone by the next morning. In 2 per cent. it was very severe and continued for two to four days, progressively subsiding. No remedy seems to control it, and he now merely applies a compress of cold water to the brow. In three patients a tardy cephalalgia appeared after two to five days of complete tranquillity, more annoying than strictly painful, gradually subsiding in the course of seven days. It is difficult to understand this cephalalgia, as the cocain disappears so rapidly from the cerebrospinal fluid that not a trace can be discovered an hour after the operation. There is no chemical irritation of the pia-arachnoid membrane; cytologic examination and tests of its permeability with iodin have demonstrated its integrity. The temperature rose in 45 per cent. to 37.8, 38 and 38.5, and exceptionally to 39 and 39.5 C. The curve in 50 patients was well defined and constant, commencing about four to six hours after the analgesia, attaining the maximum the eighth to tenth and returning to normal by the twelfth to fourteenth. It never persisted beyond the twentieth hour. The urine does not suggest in any respect the urine-formula of fever. The blood shows no alteration resembling the leucocytosis of fever. The elevation of temperature is probably due to the action of the cocain on the thermogenic centers. The subjective and other symptoms were never so severe as to cause any alarm. The age of his patients ranged from 10 to 79. but as a general thing he prefers not to use this method of analgesia on children and hysterics. Children bear the cocain very well, but are liable to become frightened. He believes that persons with heart affections or arteriosclerosis have nothing to fear from it, as he has cocainized a large number. For all extraperitoneal operations analgesia by the spinal route bears comparison with general anesthesia—the future will show whether it ought not to supplant the latter. In operations on the lung and pleura in the two lower-thirds of the thorax it is the method of election, as chloroform and ether have serious disadvantages in these conditions. In regard to intraperitoneal operations, he would not recommend the method unless the surgeon is thoroughly familiar with abdominal surgery. Everything is all right as long as no incidents happen—and this is the rule—but if vomiting or nausea occurs the operator, must wait for it to subside, and thus be hindered. In simple interventions, such as vaginal hysterectomy, ablation of the appendix or herniotomy, a little nausea is of no importance, but it may prove serious in operations on the liver, stomach or intestine, or in tedious interventions on the annexes or uterus.

Berliner Klinische Wochenschrift, December 3 and 10.

Treatment of Fractures of the Jaw. Warnekros.—For severe fractures of the jaw Warnekros has devised a splint which holds the parts in the correct position in the simplest manner, and can be removed for daily disinfection. It is merely a rubber plate made to fit over the jaw, allowing the teeth to protrude, such as dentists apply to correct the position of a tooth on the other jaw. It is small, light, aseptic, does not interfere with chewing or talking, and can be removed every day for disinfection of the plate and region after the third day. In one case the fracture was in the ascending branch of the lower jaw. A broad loop of stout gold wire projecting from the end of the rubber plate-cap supported the fractured portion to counteract the action of the external pterygoid muscle on the other side. In another case the upper jaw was fractured in three places and the lower jaw in one. The splints were taken out and disinfected every day and the fractures healed with no deformity.

December 10.

Cure of Hernia of the Lung. O. Vulpius.—Hernia of the lung developed consecutive to an unhealed fracture of the right third rib on a man of 42. He was able to reduce the hernia at first, but the frequent relapses caused irritation, catarrhal conditions and a cough. By the end of a year the hernia had become the size of two fists and operative intervention was imperative. Vulpius planned to slit the second and fourth ribs and fasten the outer half to the stump of the third rib, leaving the bone-flap still attached to the rib at its root. He accomplished this with the second rib, fastening the flap in a convex position, but the adhesions were too extensive for the operation to be completed on the fourth rib. The results were extremely satisfactory, even with this partial intervention.

Centralblatt f. Bakteriologie (Jena), November 30.

Diphtheria in the Horse. L. Corbett.—The genuine diphtheria bacillus was found in the secretions of a sick pony, the only source for the infection of a little girl that could be discovered. When diphtheria antitoxin is found in the serum of horses, therefore, it evidently has the same significance as when found in man.

The Filaria in the Mosquito. B. Grassi.—The fact that the filaria sanguinis is transferred to man exclusively by the mosquito seems to be established by the results of Grassi's research, which has determined that the larvæ of the filaria immitis enter the Malpighian bodies and there complete their development. In ten days they pass into the abdominal cavity and up to the head, accumulating in the prolongation of the cavity in the labium. From the labium they pass into the body of the animal stung. The filaria nocturna develops in the thoracic muscles. Both were found in several varieties of the anopheles and the immitis also in the culex penicillaris and pipiens.

Deutsche Med. Wochenschrift, (Leipsic), December 6 and 13.

Athyreosis in Children. H. Quincke.—Two cases are described in detail to sustain Quincke's assertions that we are still far from knowing all the variations of the clinical picture induced by defective and disturbed functioning of the thyroid gland. He thinks this condition should be classed with uremia and diabetes as an autointoxication, possibly multiple. In puzzling cases of tardy development, mental or physical, the possibility of an affection of the thyroid gland should not be overlooked, even when the typical symptoms of cretinism and myxedema are absent. These rudimentary and abortive cases are not only the most interesting, but they are the most amenable to thyroid treatment. In one of the cases described the growth was normal, although the other symptoms indicated sporadic cretinism, and the autopsy showed that the thyroid gland, which had been the size of a bean during the first year of life, had completely disappeared by the fourth year. In the second case the cretinism commenced to develop insidiously in an apparently normal child 15 months old. A peculiar feature of this case was that all the teeth but two dropped out. The symptoms suggested an organic cerebral lesion, but a few months of thyroid treatment cured the condition completely. He suggests the term "athyreosis subacuta" for these rudimentary cases.

December 13.

Testing for Knee-Jerk. Walbaum.—In testing dubious cases it is possible to detect even the slightest reflex action by placing the hand on the patient's knee, the fingers on the ligamentum patellæ inferius, while the thumb and tip of the little finger rest on the upper edge of the patella, the latter thus enclosed between the fingers and the palm. If the hand is then struck lightly with the other fist the fingers feel the ligament spring up if the knee-jerk is still present.

Finsen's Radiotherapy. S. Bang.—The ultraviolet rays are not absorbed in Finsen's radiotherapy, on the contrary they are exceptionally numerous and effective. He has succeeded in killing cultures of bacteria in one second, and Bang announces that with an ordinary, unconcentrated arc light it is possible to kill the prodigiosus in one minute or less, with a current of 34 amperes and 50 volts, at a distance of 38 cm.

Mitteilungen a. d. Grenzgeb. (Jena), vii, Nos. 2 and 3.

Anatomy of Hypertrophied Prostate. S. Ciechanovski.—Twenty-six pages of this extensive article are devoted to the bibliography of the subject, including many works by Slavonian writers. The author concludes that the hypertrophy is usually due to some inflammatory process which may have caused no symptoms at the time, and in the largest majority of cases, if not all, is of gonorrheal origin. A convincing argument in favor of this assumption would be the discovery that gonorrhea is restricted to man and dogs, as the hypertrophy of the prostate seems to be limited to them.

Influence of Artificially Induced Hyperemia on the Brain. A. Bier.—Constricting the neck with a rubber band hooked tight induces hyperemia of the brain, and Bier has established that it is not a dangerous procedure. He wore the band himself for five nights and, except for headache the first day, experienced no ill effects beyond the sleeplessness caused by the unusual sensation of the band. It was also tried on a number of patients in hopeless stages of tubercular meningitis in the attempt to supply the artificial congestion which Bier has found beneficial in other forms of tubercular affections. The effect of the constriction was also studied on a few patients with a defect in the skull, allowing the pulsation to be watched. He has established that abrupt application and removal of the band produces remarkable variations in the intracranial circulation. The next step was to apply these data to the treatment of epilepsy, and he reports ten cases thus treated. He found that the constriction was borne remarkably well by epileptics. When the band was applied so tight as to have caused throbbing and headache in Bier and others, the epileptics did not seem to experience anything of the kind and merely complained of the interference with swallowing. In six the seizures were diminished in number and intensity, including one patient who had had one or more every day for a year, and had no recurrence for six days after wearing the band for four. Several patients stated that the band arrested the distressing sensation of pressure and vertigo in the head. Three other patients were unaffected and in another the seizures seemed to last a little longer. In no case was a seizure ever induced by the constriction. It has proved effectual in warding off nervous headaches in another patient during the past year, applied at the premonitory symptoms. It also demonstrated an unmistakably beneficial influence on one of three cases of severe chorea thus treated. He observes that possibly the benefits attained by craniectomy in epilepsy are due merely to the hyperemia induced by the operation, as in cases of tubercular peritonitis. Lumbar puncture may also induce hyperemia in the brain as the blood rushes into the vacuum left by the removal of the cerebrospinal fluid.

Operative Treatment of Pericarditis. Reichard.—The prognosis depends upon the etiology, Reichard concludes from study of thirty-three cases. The favorable termination in two exceptionally severe cases of purulent traumatic pericarditis speaks emphatically in favor of operative intervention in such circumstances. The majority also recover in other cases of primary affection and pericarditis consecutive to pleuritis and empyema, but after influenza, pneumonia and severe osteomyelitis it is nearly always fatal.

Total Necrosis of the Testicle from Mumps. A. Stolz.—A very slight attack of mumps in a young man of 18 was followed by painful swelling of the left testicle, terminating in total, isolated necrosis.

Muenchener Med. Wochenschrift, December 11.

Relations Between Rhodan in Saliva and Iodin Intoxication. O. Muck.—The writer has been making a study of the results of injury of the innervation of the salivary glands from chronic otitis of the middle ear. In the course of this research he has discovered that persons with an unusual amount of rhodan in the saliva are exceptionally liable to acute iodism in consequence of ingestion of even moderate amounts of potassium iodid. Almost invariably symptoms of iodism appeared, varying from iodin acne to general nausea, while patients with a transient or permanent lack of rhodan in the saliva bore the potassium iodid without disturbance.

Chloral and Hemorrhages. A. MODEL.—The writer suffered for years from threatening hemorrhages from stomach, intestines, lungs and nose, which were finally traced to the moderate use of chloral for insomnia, and have ceased since the drug has been completely abandoned. The case is not pure, as latent atheromatosis exists and father and brother also manifest a slight hemorrhagic diathesis.

Wiener Klinische Wochenschrift, December 13.

Schleich's Local Anesthesia. F. V. FRIEDLAENDER.—This communication from the late Professor Albert's clinic summarizes the indications for this method of anesthesia as deduced from long experience: all operations on the skin, even protracted plastic operations, and all operations for which general narcosis is contraindicated. It is relatively indicated also in the so-called typical operations on the extremities if the intervention can be completed without toxic doses of cocain, and also for operations on the intestines when they can be performed without pulling, when there is no inflammation of the peritoneum and when palpation of the abdominal cavity can be dispensed with.

Dietetic Treatment of Hyperacidity. E. V. SOHLERN.—In the writer's long experience at Kissingen he has found that the majority of persons with hyperacidity not only tolerate certain carbohydrates, but that the latter are important factors in the cure. They must be easily digestible, non-stimulating to the secretions, soft like porridge and not too concentrated. Potato, for example, can be eaten by nearly every hyperacid person without disturbance if mashed, put through a sieve and then stewed with milk.

Gazzetta Degli Ospedali (Milan), December 9.

The Blood in Animals After Ablation of Thymus. A. COSENTINO.—A marked and progressive hyperleucocytosis was noted in rabbits and dogs after removal of the thymus and, parallel with it, an increasing bactericidal power of the serum, reducing the number of colonies from 155 and 552, for instance, to zero in forty-eight hours.

The Blood of Subjects With Carcinoma. DARIO MARAGLIANO.—Careful tests and experiments with the blood of thirty-three persons with carcinoma of the uterus, mammæ, stomach or other organs failed to reveal any blastomycetes or parasites such as have been described by Bra, Chevalier and others, although the conditions of the tests were scrupulously identical.

Intraspinal Resection of the Posterior Roots for the Cure of Rebellious Sciatica. D. GIORDANO.—A man of 26 with recurring sciatica of such severity that work was impossible, and the patient could not use his limb, was temporarily cured by stretching the nerve. When the neuralgia recurred Giordano yielded to the patient's appeals for relief and resected the posterior roots of the nerve, after exposing the eleventh and twelfth dorsal and first lumbar vertebræ. The dura was sutured with catgut and the flap replaced, leaving a small drain. All sensibility in the member was abolished and the patient could use his limb at once as he had not been able to use it for months. The second day acute pain was felt along the internal saphenous nerve, which proved rebellious to treatment and was finally cured by resecting this nerve below the tuberosity of the tibia, eight days after the primary operation. During the months that have elapsed since there have been no traces of pain. No trophic disturbances have been noted and the member is gradually recovering the sense of contact and pain on external irritation.

St. Petersburg Med. Wochenschrift, December 8.

Spontaneous Evacuation of Extrauterine Pregnancy. A KUPFFER.—In the case described a woman of 53 evacuated per anum the bones of a fetus from an extrauterine pregnancy ten years before. The bones accumulated twice in the rectum, causing intense pain. Eleven cases are on record of a similar spontaneous irruption of remains of the extrauterine fetus into the intestines.

Change of Address.

C. J. Aldrich, 744, to 612 Prospect St., Cleveland, Ohio.
J. S. Blackburn, 41 Michigan Ave., to 1141 Hudson Ave., Detroit.
S. A. Bonnaffon, Williamsport, to 3439 Walnut St., Philadelphia, Pa.
J. T. Bunting, Harrisburg, to 114 S. 5th St., Reading, Pa.
F. W. Bates, Ft. Worth, Tex., to Hot Springs, Ark.
O. B. H. Bowser, Richmond, Va., to 2226 11th St., N. W., Washington, D. C.
F. F. Bryan, Georgetown, Ky., to Newberry Hotel, Chicago.
J. H. Coughlin, 303, to 307 E. Broadway, New York City.
H. M. Farney, Kansas City, Mo., to Mound City, Kan.
D. F. Grasse, Dickey, N. D., to Garrison, Iowa.
C. E. Hillis, 66 N. 2nd St., to 108 N. 3rd St., Memphis, Tenn.
C. P. Hough, Salt Lake City, Utah, to 224 Miller St., Jefferson City, Mo.
M. J. Levitt, 253 E. 105th St., to 1757 Madison Ave., New York City.
Lydia H. LaBaume, Rockford, to Batavia, Ill.
T. B. Morrissey, Chicago, to 126 N. Avon St., Rockford, Ill.
J. J. Minot, Mattapan, Mass., in care Mrs. Doulton, Box 1606 Santa Barbara, Cal.
A. D. Van Dyke, Baltimore, Md., to Marysville, Pa.
E. H. Moore, New York City, to Whitehouse Station, N. J.
F. H. Martin, Milwaukee, to Edgerton, Wis.
B. W. Macfarland, Bordentown, to Trenton, N. J.
G. Maxwell, Haldane, Ill., to Watonga, O. T.
H. J. Prentiss, 852 W. End Ave., to 239 W. 103rd St., New York City.
J. G. Pope, Rockwood, to Coleman, Tex.
M. Pritchard, Sierra Valley, to Sierraville, Cal.
Rev. J. A. Rudolph, 214 E. Randall St., to 209 E. Fort Ave., Baltimore, Md.
H. Rees, Preston, Minn., to Walcott, N. D.
M. W. Richardson, 10 Exeter St., to Equitable Bldg., Boston, Mass.
A. B. Richardson, Massillon, Ohio, to Government Hospital for Insane, Washington, D. C.
F. P. Shelby, Shelby, to Deeson, Miss.
S. C. Sims, 56 N. 3rd St., to 50 N. 4th St., Memphis, Tenn.
W. F. Seymour, Reedsburg, Wis., to 458 W. Adams St., Chicago.
F. L. Wilcox, Albert Lea, to Walker, Minn.
B. J. Wadey, Belleville, to 218 W. Madison St., Belvidere, Wis.
J. P. Welch, Aultman, Ariz., in care Dr. R. J. Rowland, Troupe, Texas.

Queries and Minor Notes.

CALL OF COURTESY.

SANDY, UTAH, Dec. 28, 1900.

To the Editor:—Should a new physician, just locating, call first upon brother practitioners, or is it the other way? DR. C. E. B.

ANS.—See reply to B. C. K., page 71, THE JOURNAL, of last week.

COST OF A COURSE IN EDINBURGH.

PORT TAMPA CITY, FLA., Dec. 18, 1900.

To the Editor:—Will you please inform me what would be the approximate expenses of a trip to Europe—with taking a course of lectures. I desire to go to Edinburgh, and if you can put me in communication with the University I would be glad. Yours very truly, J. M. G.

ANS.—The fare across the Atlantic can be made comparatively low on some lines, the American Line from Philadelphia to Liverpool for example, which gives a comfortable passage for $38 over, in the winter, and $31 returning at same season of year. The additional expense of railroad fare to Edinburgh and return to Liverpool would be $10 or less. About $5 to $10 per week will pay for comfortable board and lodging, and the fees for lectures are from $5 to $20 per class or course. If the passage over or back is in the summer season the rates are higher, perhaps $10 more. A letter addressed to the Dean of the Faculty of Medicine, University of Edinburgh, would obtain the further details needed.

MEDICAL PRACTICE ACTS.

PHOENIX CITY, ALA., Dec. 28, 1900.

To the Editor:—What are the regulations governing the practice of medicine in the State of Florida? W. L. M.

ANS.—A diploma and examination are required. The examining boards are separate for each judicial district of the state.

RICHMOND, IND., Dec. 29, 1900.

To the Editor:—Will you please inform me through THE JOURNAL what the laws are in Missouri, Arkansas and Texas for the practice of medicine, and oblige. J. B. L.

ANS.—Arkansas requires an examination before the county board of examiners. The license given is good as long as residence in that county continues. The fee is $6. In Missouri a diploma properly verified is required. In Texas an examination by special examining boards in the different judicial districts is provided for, but the law, however, is very lax, and a diploma is said to be practically all that is required; one diploma is as good as another, according to a decision of the Supreme Court. It is likely there will soon be some further legislation rendering conditions more strict.

The Journal of the
American Medical Association

Vol. XXXVI. CHICAGO, ILLINOIS, JANUARY 19, 1901. No. 3.

Original Articles.

A CLINICAL STUDY OF ONE HUNDRED AND FIFTY CASES OF HYPERPHORIA.*

WENDELL REBER, M.D.,
PHILADELPHIA.

When this paper was first thought of, I went over all my records with a view of finding in what percentage of cases hyperphoria had been noted; also what lessons were to be derived from the study of these cases. After much examination I decided to limit myself to my last 700 cases, throughout which there has been almost absolute uniformity of study. The statistics resulting from any study of these 700 records will therefore be of much greater interest and more faithful to the facts than had I included my preceding 1700 records, many of which are more or less incomplete as to the muscular status.

In every case painstaking correction of all refractive errors was made, the tests for hyperphoria preceding and following the refraction. Out of these 700 records 525 were refraction cases, in every one of which the muscular status was carefully estimated with the Maddox rod—and sometimes with supplementary methods—before giving the prescription. It is my conviction that without full knowledge of the muscular status, it is absolutely impossible to come to an intelligent conclusion as to what lenses ought to be ordered in any given case of ametropia.

Hyperphoria is spurious or intrinsic. The former is almost invariably an outward expression of perverted accommodation. In such cases where the ciliary muscle has been cured of its bad habits by a mydriatic or the wearing of proper correcting lenses, the vertical deviation usually disappears. Particularly is this true when oblique astigmatism has been the fault. Moreover, lithemia, gout, neurasthenia and, I have sometimes thought, early tabes, will at times produce a transient hyperphoria which might easily lead the examiner astray if the general economy and the patient's life habits are not kept constantly in view.

Intrinsic hyperphoria, on the other hand, is uninfluenced by a mydriatic. Indeed in some cases I have seen a small but gradual daily increase under prolonged cycloplegia. This is no less true after wearing a proper correction, for, as far as my experience goes, intrinsic hyperphorias are little if any influenced by curing the ciliary muscle of its vicious habits. True, many such patients will be entirely relieved of all their symptoms by assuming the proper correcting glasses, in which case treatment directed to any coincident muscular imbalance is meddlesome ophthalmology. But, on the other hand, I have known people to wear perfect corrections for some years, going from one to another ophthalmologist, still seeking relief, only to find it when a vertical prism had been combined with their curvature correction.

Whether a patient shall or shall not receive a prism correction should be entirely a matter of symptoms. Some people carry a vertical imbalance of 1 to 2 degrees all through a life of high tension and large usefulness without the slightest discomfort, while in others .5 to .75 degree is sufficient to make life an almost intolerable burden. Into this phase of the question enter such factors as heredity, temperament, life habits, worry, and all the rest of that intricate aggregation of facts that go to make up the personality of our patients.

But there seems a degree of hyperphoria below which it is trivial to go, and this I would fix at .5 degree—tentatively at least. Nothing less than this was recognized in the 700 records studied.

In the early part of my muscle work the diplopia test was unfailingly applied, either by means of a single rotary prism or the Stevens phorometer. But I soon found myself relying on the Maddox rod, and for the very good reason—shown by my colleague, Dr. Hansell—that any test that compared the behavior of a foveal image of one eye with a perifoveal image of the other eye could not but often lead the surgeon into false conclusions; this is because of the stimulation of non-corresponding points in the two retinas. The test that would so deform one image as to temporarily set aside the fusion impulse, and at the same time allow a certain portion of this deformed image to fall on the fovea of the eye seeing that image, certainly seems the best test so far at our command—hence the great value of the Maddox rod. On this test I have rested the diagnosis in these 150 cases.

There is a diplopia test that is of signal value in the detection of hyperphoria, namely, the use of a colored glass to detect, if possible, spontaneous diplopia, which if found is of great significance. But this is natural diplopia conforming to the proposition that a test must concern both foveæ centrales; hence this diplopia test is free from the objections made against those tests based on artificially produced diplopia.

Latent Hyperphoria.—An interesting feature in connection with this study is that out of the 150 times in which hyperphoria was found, it was partially or wholly latent in 49—or practically 33 per cent.—of the times it occurred. In glancing over the methods of various workers for the unmasking of latent hyperphoria I find that all of them are some manner of modification of the "blinder" test. It is now a fairly well accepted fact that in a certain number of cases, if a blinder is worn before one eye for fifteen to thirty minutes, a hyperphoria varying from .5 to 1 degree will often show itself for a few minutes after uncovering the eye.

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* Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Dec. 20 to 26, 1900, inclusive:

Frederick S. Dewey, captain and asst.-surgeon, 38th Vol. Infantry, honorably discharged from the service of the United States, to take effect February 20, 1901.

Gerry S. Driver, acting asst.-surgeon, from Washington, D. C., to Chicago, Ill., for temporary duty as examiner of recruits.

William R. S. George, acting asst.-surgeon, from Washington, D. C., to Governor's Island, N. Y., for assignment to duty at San Juan, P. R.

Thomas W. Jackson, acting asst.-surgeon, from temporary duty at the U. S. Military Academy at West Point, N. Y., to San Francisco, Cal., for duty with troops going to Manila and subsequent assignment in the Division of the Philippines.

William C. LeCompte, acting asst.-surgeon, from San Juan, P. R., to Washington, D. C., to report to the Surgeon-General for instructions.

Joseph C. Reifsnyder, acting asst.-surgeon, relieved from further duty in the Division of the Philippines and assigned to duty at the U. S. Military Academy at West Point, N. Y.

Henry A. Webber, lieutenant and asst.-surgeon, U. S. A., leave of absence from the Department of Eastern Cuba extended.

Navy Changes.

Changes in the Medical Corps of the Navy for week ending Dec. 29, 1900:

Asst.-Surgeon R. E. Ledbetter, detached from the *Monongahela* and ordered to the *Constellation.*

Asst.-Surgeon C. R. Burr, orders of Dec. 19 revoked, and to resume duties on the *Monongahela.*

Medical Director G. P. Bradley, commissioned medical director from May 31, 1900.

Medical Director P. Fitzsimons, commissioned medical director from Nov. 19, 1900.

Surgeon G. H. Barber, commissioned surgeon from June 7, 1900.

Asst.-Surgeons S. S. Rodman and J. M. Brister, appointed from Dec. 14, 1900.

DIED.

Medical Inspector W. H. Jones, retired, died at Bethlehem, Pa., Dec. 13, 1900.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service, for the seven days ended Dec. 27, 1900:

Surgeon W. P. McIntosh, to proceed to Columbus, Georgia, for special temporary duty.

Asst.-Surgeon C. E. Decker, granted leave of absence for 14 days on account of sickness.

Asst.-Surgeon L. P. H. Bahrenburg, relieved from duty at the Immigration Depot, New York City, and directed to proceed to Manila, P. I., and report to the chief quarantine officer for duty.

Acting Asst.-Surgeon Francis Duffy, granted leave of absence for six days from December 29.

Acting Asst.-Surgeon W. J. Linley, granted leave of absence for thirty days.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Dec. 28, 1900:

SMALLPOX—UNITED STATES.

Florida: Jacksonville, Dec. 2, 1 case.
Kansas: Wichita, Dec. 15-22, 10 cases.
Kentucky: Lexington, Dec. 22, 1 case.
Maryland: Baltimore, Dec. 22, 1 case.
Minnesota: Dec. 15-22, Minneapolis, 12 cases; Winona, 120 cases.
New Hampshire: Manchester, Dec. 15-22, 14 cases.
New Jersey: Jersey City, Dec. 16-23, 7 cases.
New York: New York, Dec. 15-22, 21 cases.
Ohio: Ashtabula, Dec. 15-22, 15 cases; Cleveland, Dec. 15-22, 25 cases; Portsmouth, Dec. 22, 1 case.
Tennessee: Memphis, Dec. 22, 1 case.
Texas: Houston, Dec. 15-22, 22 cases, 1 death.
Utah: Salt Lake City, Dec. 15-22, 31 cases.
Washington: Tacoma, Dec. 15, 1 case.
Wisconsin: Milwaukee, Dec. 22, 1 case.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, Sept. 30, 7 cases, 6 deaths.
Bohemia: Prague, Nov. 24-Dec. 1, 43 cases.
Brazil: Pernambuco, Oct. 1-15, 26 deaths; Rio de Janeiro, Oct. 1-31, 69 deaths.
Egypt: Alexandria, Nov. 27, 3 cases 1 death.
England: London, Dec. 1-8, 1 case.
France: Paris, Dec. 1-8, 14 deaths.
India: Calcutta, Nov. 17, 6 deaths.
Mexico: Mexico, Dec. 16, 1 case, 2 deaths; Progreso, Dec. 9-15, 3 cases.
Russia: Nov. 24-Dec. 1, 9 cases; Warsaw, 36 deaths.
Scotland: Glasgow, Dec. 7-14, 58 cases, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, Oct. 1-31, 31 cases, 6 deaths.
Mexico: Vera Cruz, Dec. 14, 2 deaths.

CHOLERA.

India: Bombay, Nov. 13-20, 3 deaths; Calcutta, Nov. 10-17, 26 deaths; Madras. Nov. 9-16, 7 deaths.
Straits Settlements: Singapore, Nov. 10-13, 5 cases, 5 deaths.

PLAGUE.

Brazil: Petropolis, Dec. 10, 1 death; Rio de Janeiro, Oct. 1-31, 31 cases, 20 deaths.
India: Calcutta, Nov. 17, 2 deaths.
Japan: Osaka, Nov. 2-27, 8 cases, 8 deaths.
Madagascar: Tamatave, Nov. 11, 1 case.

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Subscription price: Five dollars per annum in advance

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Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

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The Journal of the
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Latent Hyperphoria.—An interesting feature in connection with this study is that out of the 150 times in which hyperphoria was found, it was partially or wholly latent in 49—or practically 33 per cent.—of the times it occurred. In glancing over the methods of various workers for the unmasking of latent hyperphoria I find that all of them are some manner of modification of the "blinder" test. It is now a fairly well accepted fact that in a certain number of cases, if a blinder is worn before one eye for fifteen to thirty minutes, a hyperphoria varying from .5 to 1 degree will often show itself for a few minutes after uncovering the eye.

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* Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Some surgeons still resort to this method for the detection of supposed latent hyperphoria. Posey has modified this method by first working out the correction of the right eye and then with the correction still before that eye placing in front of it a blank disc. The left eye is now examined, and when the proper correction has been worked out, the Maddox rod is placed before the left eye. He now lifts the blank disc from in front of the right eye which has thus been under cover for from five to ten minutes. If latent hyperphoria exists, it is likely to show itself wholly or in part by this unveiling test.

My own maneuver differs but slightly from Posey's method. After the right eye has been corrected, I place in front of the correction the Maddox rod. When the left eye has been corrected, I immediately direct the patient's attention to the streak of light and after carrying the streak several times from the vertical to the horizontal position, have them tell me its relation to the point of light. I believe that by having the patients fix their attention on the streak in the vertical position and then suddenly swinging it into the horizontal position, the higher cerebral centers are taken by surprise and the detection of latent hyperphoria made relatively easy. The rod should be reversed a dozen times or more, each time questioning the patient as to the relative positions of the streak and light. The purpose is twofold: 1, by continually throwing the higher centers off their guard to unveil more of the hyperphoria; 2, frequent repetitions of the maneuver to educate the patient to assist in the determination by relaxing the impulse to binocular fixation as we relax the accommodation.

Any method that takes the higher centers off their guard will reveal the deviation. Binocular single vision is one of the brain's most complicated automatic functions. It concerns a cerebral—or governing—and a peripheral—or executing—apparatus in the most intimate association. The unconscious preservation of binocular single vision is so deeply rooted a thing in the human automatism that something. some trick, is needed that will temporarily set aside the dominating influence of the cortical centers over the eyeballs and their muscles. Only in this way can latent deviation tendencies in the peripheral portion—the eyeballs—of the binocular vision apparatus be revealed in many cases —and especially in young subjects.

Age seems to play no small part in this matter, for hyperphoria is much more commonly manifest after 40 years of age than before that time. It is difficult to put down the thought that along with the loss of ciliary elasticity there goes a similar loss of compensating elasticity in the extraocular musculature, that favors the easier detection of any previously existing lateral or vertical deviations. Certain it is that in presbyopes, hyperphoria is much more easily shown and vertical prisms are much more comfortably worn than by the generality of young people. In only 7 cases out of these 150 was hyperphoria found before the 20th year.

Between the 20th and 30th years hyperphoria occurred in 34 cases; 30th and 40th years, 50 cases; 40th and 50th years 29 cases; 50th and 60th years, 27 cases; after the 60th year 3 cases. These figures refer to true hyperphorias only, in whom binocular vision was invariably present. No instance of actual vertical squint was allowed to creep in.

As to the refraction conditions with which hyperphoria is associated, it was encountered 117 times out of 150 in hypermetropia and hypermetropic astigmatism; 17 times in myopia and its allied states; 8 times in mixed astigmatism; 6 times in antimetropia—commonly termed anisometropia—and twice in emmetropia. Anisometropia has not in my experience furnished the large percentage of hyperphorias noted by some other workers in this field. Perhaps this is because I found actual vertical squint not infrequent among this class—in other words the findings do not differ in kind but in degree.

In its relation to lateral muscular deviations, the hyperphoria in these 150 cases was associated with esophoria 86 times, with exophoria 55 times, and with lateral balance 9 times. This too is easily explainable on the basis of the predominance of hypermetropia as above shown.

In 73 cases the upward deviation occurred in the right eye and in 77 in the left, so that there is practically no difference in the frequency with which either eye deviates.

Hyperphoria.	No. of times found.	Corrected with prism.	No prism correc.
½ degree	40	12	28
¾ degree	31	20	11
1 degree	43	35	8
1¼ degrees	3	3	—
1½ degrees	10	8	2
2 degrees	10	8	2
3 degrees	4	2	2
4 degrees	5	5	—
5 degrees	4	4	—
	150	96	54

The results of prism correction were the following: Number of cases, 96; good, 78; improved, 6; no change, 6; unknown, 6. In the 54 cases in which no prism correction was ordered the results were fairly good. Prism corrections were not ordered in these 54 cases, 1, because, notwithstanding the existence of unmistakable hyperphoria, the patient had been previously wearing either no correction or a wrong one; 2, because convergence-training or repression dissipated the symptoms; or 3, because the patient took such high power plus or minus lenses as to make inadvisable the incorporation of any vertical prism. Such patients learn readily but unconsciously to correct their hyperphorias, generally by tilting one lens a little higher than the other. In prescribing these 96 vertical prisms, full corrections were ordered in 20 cases, three-quarter corrections in 60 cases, and half of the deviation was corrected in 16 cases. Full corrections were made only in glasses for near work, because hyperphoria is generally greater for the occupation distance than for infinity, and experience has shown that the prism that fully corrects the deviation for infinity can often be comfortably worn in all near work. This observation is almost invariably true for hyperphoria of .75 degree or more.

My figures show further that in 40 cases which I have been enabled to follow, the hyperphoria has increased from 33 to 50 per cent. after six-months wear of a vertical prism. I have no explanation to offer for this increase, or rather unmasking of a latent hyperphoria. I can but point to what seems to me a perfect parallel; i. e., the uncovering of a latent hypermetropia by age. When some member of this Section has discovered and made practical, the use of a myoplegic that will paralyze the extraocular muscles as a mydriatic does the intraocular muscles, we shall have made a giant stride toward solving the physiology of the extraocular muscles in particular and the act of binocular vision in general. True, it would probably upset many of our pet notions of to-day and require us to build up new standards, but it would certainly give us some precious information as to the anatomic and functional positions of rest of the eyes.

The principal symptoms of vertical deviation tendencies are one-sided supraorbital, temporal and occipital neuralgias, photophobia, drowsiness, and tremendously exaggerated general fatigue after prolonged near work. I have been especially impressed with this last symptom in many cases. Too, hyperphoria stands in close relation, etiologically, to migraine; quite as close, I am sure, as oblique astigmatism.

In the effort to make hyperphorics comfortable without vertical prisms or tenotomies, too much attention can not be given to convergence deficiency or excess, the former to be met with convergence training after the method popularized by Gould, the latter with convergence-repression treatment by crowding on excessively strong convex lenses for ten-minute periods of work at the near point three or four times a day. These measures often suffice to wipe out all the symptoms. Moreover, as pointed out by Oliver,[1] sleep and exercise are splendid adjuncts in relieving the conditions of asthenopic hyperphorics. A few additional hours of sleep daily often rid a patient of much eyestrain that lenses, prisms, or tenotomies never fully reach. The benefit of exercise in the open is too patent for comment.

Tenotomy.—Out of the 150 cases studied, tenotomy was resorted to in only 5, all of which presented hyperphoria of 3 degrees or more. In no one of these 5 cases was there any marked difference in the refraction of the two eyes. Two were epileptics. One of them—a young man with left hyperphoria of 4.5 degrees—has been entirely free of epileptic manifestations for six months, whereas he had been having seizures daily. For three years he had worn a perfect correction of his low-grade ametropia without any effect on his minor epilepsy. In his case, I tenotomized the left superior and the right inferior rectus at the same sitting, securing 1 degree of overcorrection, which righted itself in four or five days. He has now absolute muscle balance.

The other, a 31-year-old married woman, has had but three epileptic seizures in four months, as against bi-weekly and sometimes tri-weekly attacks prior to operation. Her hyperphoria was 4 degrees.

The three remaining cases all presented distressing head symptoms not relieved by vertical prisms, but markedly benefited by free tenotomy of the superior rectus of the eye with the higher visual axis.

From the foregoing, the rational treatment of hyperphoria would seem to resolve itself into: *a*, wearing a proper correction four to six months; *b*, exclusion of causative diathesis or central nervous disease; *c*, convergence-training, if convergence be weak; *d*, convergence-repression, if convergence be excessive; *e*, if the hyperphoria is still annoying, prism correction of one-half to two-thirds of the vertical deviation for distance, and two-thirds to all of the deviation for near work; *f*, if the hyperphoria continues to produce urgent symptoms in spite of the preceding measures, tenotomy of the overacting elevators of one eye or the depressors of the other eye finally becomes justifiable.

Much more could be said in comment on the facts growing out of this study, but I shall have to content myself with recording the following convictions:

1. Hyperphoria occurs in about 1 out of 6 patients who seek counsel of the ophthalmologist.
2. It is present to the extent of .5 degree or more in 1 out of 3 refraction cases.
3. It becomes worthy of special attention in about 1 out of 5 refraction cases.
4. It is more likely to be latent before the 30th year—33 per cent. of all cases—and manifest after that time.
5. It occurs most frequently to the extent of about 1 degree.
6. The most frequent symptoms are supraorbital, temporal, and occipital neuralgias, photophobia, drowsiness, and abnormal physical tire after prolonged near work.
7. A full quota of sleep, daily open-air exercise, and a well-regulated life are all highly important factors in trying to make hyperphorics comfortable.
8. Hyperphoria is found a little oftener associated with esophoria—57 per cent.—than with exophoria—37 per cent. This is probably because compound hyperopic astigmatism with its associated convergence-excess outnumbers all other anomalies of refraction.
9. Convergence-training—if convergence be insufficient—and convergence-repression—if convergence be excessive—frequently relieve hyperphoric symptoms entirely.
10. *The vertical prism has a field of pronounced usefulness.*
11. Prism corections will be of service in about 50 per cent. of all cases. One-half to two-thirds of the hyperphoria may be corrected for infinity and two-thirds to the full amount for work at the occupation distance.
12. When all these means have been exhausted, section of some one of the vertical muscles may be thought of. About 1 out of 20 hyperphorics whose deviation is 2 degrees or more will profit more by tenotomy than by any other treatment. Two or three degrees is likely to be the amount permanently obtained by vertical tenotomy.
13. The only fruit that can be borne of the attempt at hospital or dispensary treatment of hyperphoria—or for that matter any but the simplest muscular anomalies—is vanity and vexation of spirit.

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DISCUSSION.

DR. H. F. HANSELL, Philadelphia—Dr. Reber's paper is a conclusive one based on experience and is a most conservative expression of opinion founded upon a careful, thorough, clinical investigation. The subject is a very large one and open to discussion in various ways, but the part that seems to me to have the greatest weight is the diagnosis of hyperphoria. The paper is valuable, too, in that the author has carefully excluded hypertropia. Many writings on this subject are complicated and rendered less valuable because there has not been a close line drawn between hyperphoria and hypertropia. The conditions are different; in the one case we are exercising our brain, musqular force and all the nerve energy we can to cancel the defect, and in the other case we have yielded to this defect, and the main symptom we get is diplopia, readily corrected by simply covering one eye, whereas the mental symptoms of hyperphoria, which make it such an important part of our practice, can only be relieved by a careful study and a great deal of practical clinical experience.

DR. MARK D. STEVENSON, Akron, Ohio—Like most ophthalmologists I used to test for hyperphoria with the Maddox rod and prisms immediately after the patient had left the dark room, but now I not only make these tests before finding the refraction of the eye, but also with the proper lenses before the eyes and a Maddox rod before one; then by alternately covering and uncovering the eye which does not have the Maddox rod before it I can discover many cases of hyperphoria. Many cases of latent hyperphoria can be discovered by simply rotating the

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[1] Norris and Oliver: System of Diseases of the Eye.

Maddox rod from the vertical to the horizontal positions as suggested by Dr. Reber.

DR. G. C. SAVAGE, Nashville—Any muscle test that places the false images within the area of binocular fixation is full of error. The false image should be thrown entirely out of the area of binocular fixation and then we can at once get at the true condition. Monocular tests alone are trustworthy. Let me say that the hyperphoria which is corrected by convex lenses is a hyperphoria that is not due to any trouble in the superior or inferior recti, but is caused by error of attachment of the internal recti; the one muscle is simply attached too high, and the other too low. The esophoria you find in such cases is not an intrinsic esophoria, but a pseudo-esophoria. You correct the hypermetropia and at the same time cure the pseudo-esophoria and the hyperphoria disappears. Again the hyperphoria that is relieved by cylindrical correction is not due to any trouble in the superior or inferior recti. In such cases of astigmatism the meridians of greater curvatures are leaning in the same direction, but not parallel, and the leaning is toward the nose and greater in the hyperphoric eye. Correct this astigmatism and the hyperphoria vanishes like mist before the morning sun.

There was a very interesting case here yesterday in a man with less than 1 degree of right hyperphoria, whose eyes are subjected to 2 degrees of vertical prismatic effect. He gets more relief from that than from weaker prisms. This case was investigated first by an eminent ophthalmologist, who found no hyperphoria at all and who was later induced to operate on the internal rectus of the left eye for esophoria. (If he had divided the lower fibers of the internal rectus of the right eye I believe he would have corrected the trouble.) On examining this case yesterday I found he had a well-marked plus cyclophoria; and I found this to explain the relief he gets from those prisms. I tried first a 1-degree prism before each eye with no comfort; and then a 1½-degree prism, base down, before right eye and a ½-degree base up before the left; that combination gives him the most relief. He thus allows the eye to turn up and is getting relief, not because of any hyperphoria primarily, but because the prism thus placed enables the superior rectus of the right eye to torsion the eye in and help the weak superior oblique, while the prism before left eye causes it to slightly torsion out, but leaving the vertical meridians parallel. I will close with this remark, that I never operate on a case of hyperphoria without knowing where the cause resides and the conditions that complicate it, and never on a case of less than 2 degrees. If a man operates on the superior muscle for hyperphoria and divides more fibers on the outer side than the inner he will lead to more suffering than if he had done nothing. As a rule it is better to divide all the internal fibers of a superior muscle than even the central fibers, and if the outer fibers are divided the patient will be worse in the end than if he had never been touched.

DR. C. F. CLARK, Columbus—I can not help feeling that most of us are mystified by this muscle question. I have enjoyed Dr. Reber's paper very much and feel that it is deserving of credit, but that we need some foundation principles to base our study upon.

DR. JOHN T. CARPENTER, Philadelphia—I think Dr. Reber deserves credit for bringing forward, at this time, a paper dealing with the treatment of defects of the ocular muscles. I have been impressed by the manner in which any reference to this subject is met by many ophthalmologists. There is complete contempt for the question of the surgical treatment of muscular abnormalities. As an instance of extreme opposition I was lately told by a man well known in our special line, when speaking of a patient whom I had cured by tenotomy of the superior rectus, that I ought to have been prosecuted for doing the tenotomy. Dr. Reber has handled this subject in a calm, judicious manner, and we should all try to help clear up this "dark region" in ophthalmic science.

DR. WENDELL REBER, Philadelphia—I am gratified at this expression of opinion. Dr. Stevenson's modification of the cover test is one I have employed for a long time, and I am not sure that he and I have not talked about it. I think the Maddox rod test the most trustworthy yet offered. We know very little about the physiology of the ocular muscles. When we reflect that there are six pairs of muscles, that no one is concerned alone in any movement of the eyes; and that according to Volkmann there are something near 200 possible combinations of these movements, we will perhaps realize how empirical our present knowledge is.

As to Dr. Thompson's question whether I cut all the muscle, I would say that I do not do partial tenotomies, but complete ones. I shall do partial ones only when clinical evidence of a convincing nature has been produced.

DR. SAVAGE—Do I understand that you do a complete tenotomy on the superior rectus for 2 degrees of hyperphoria

DR. REBER—Yes.

DR. WILLIAM THOMSON—Have you had many occasions requiring a restricting stitch?

DR. REBER—I have had overcorrection in one case and I preferred to trust the re-establishment of normal conditions to the patient's brain, believing that the brain can take better care of such temporary apparent overcorrections than the surgeon can.

OCULAR COMPLICATIONS OF INJURIES TO THE HEAD.*

JOHN T. CARPENTER, M.D.

PHILADELPHIA.

The clinical fact that blindness may follow blows on the head is by no means new, but until Berlin, in 1879, cleared up the pathology of these cases, their etiology was clouded in vague conjecture. Beer attributed the amaurosis following head injuries to the reflex influence of the supraorbital nerve. The result of anatomic studies, however, by Berlin, Leber, and Von Hölder, proved that direct damage to the optic nerve or its sheath in the foramen opticum by fracture of the orbital wall frequently occurred. Von Hölder, in his cases studied postmortem, found fracture of the orbital vault in 90 per cent., while the optic canal was implicated in about 60 per cent. There were hemorrhages into the nerve sheath in about 48 per cent. of the 88 cases. The line of fracture in some instances passed through both foramina. In Treves' "System of Surgery," illustrations show the line of fracture in two cases passing through both optic foramina, so that the blindness may be bilateral; indeed, it may even be on the opposite side to the injury by the contre coup.

Following Berlin's communication at the German Congress in 1879, there appeared reports of optic neuritis, of atrophy, and of hemianopsia resulting from blows or falls on the head. Most of the reported cases were of monocular blindness, caused by such blows or falls, the subsequent optic atrophy showing that the nerve had been severed or compressed, producing descending degeneration, with the ophthalmoscopic signs of simple atrophy, in about three weeks. Ocular complications have been recognized by surgical authors as of important corroborative value in fracture of the base of the skull; and conjunctival ecchymosis, appearing some hours or days after the injury is one of the classic signs of these fractures. Emphysema of the orbit or lids proved the existence of a fracture of the orbital walls communicating with the air cells in the neighborhood of the orbit. In 1882, Von Bergmann called attention to the fact that rapidly increasing hemorrhage into the cranial cavity produced the same disturbance in intracranial pressure that was found in brain tumors; and thus a "choked disc" might accompany cerebral hemorrhage, as well as tumor of the brain. Optic neuritis might, however, be due to direct damage to the foramen by fracture or laceration, and not to increase of the intracranial pressure. The grave and even fatal nature of the injury may completely overshadow the ocular symptoms, but interesting instances are recorded in which, with almost no general disturbance, complete and permanent blindness ensued. Knies relates the history of a railroad official who, while riding in a train, "struck the orbital rim lightly against some obstruction. The patient was not unconscious for a moment, but from that time on he was blind on the side of the injury."

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Head injuries may be perforating or non-perforating in character. The eye or its appendages may be directly injured by a bullet, a sharp implement, or a fall on a pointed stick; but in these instances the injury is an obvious one, and the case presents interest only in the light of its clinical symptoms. The eye-ball may be ruptured and destroyed or the optic nerve may be severed or torn, and the extraocular muscles may be paralyzed by damage done to their nerve supply or to the muscles themselves. Of these cases I shall not treat further. So, also, in non-perforating injury, there may be ocular complications, such as intraocular hemorrhage, dislocation of the lens—at times producing secondary glaucoma—traumatic mydriasis, or even rupture of the iris. The deeper ocular tunics may be damaged, or there may be enophthalmos or exophthalmos with pulsation. These various conditions, while presenting interesting features, can not be included in a short paper, but must be studied separately from their clinical point of view. I shall confine myself to those obscure ocular lesions following head injuries, in which the optic nerve or some of the other cranial nerves are affected.

Blows or falls on the head produce ocular symptoms by extension of fracture into the orbit; by contre coup; by hemorrhage into the nerves or their sheaths; by meningitis at the base of the brain; by localized injury to the optic chiasm or to the neighborhood of the visual centers, producing hemianopsia. This subject is interesting from its medicolegal standpoint, and in the first case reported in this paper heavy damages were secured by establishing the relation between the injury to the head and neuritis and partial atrophy of the optic nerve which resulted. Gowers treats the subject of injuries to the head under four divisions:

1. Impairment or loss of sight without ophthalmoscopic signs. In some of these cases he thinks the mischief is direct concussion of the retina.
2. Optic neuritis following at an interval of from a few days to several weeks. In these cases he thinks that the neuritis is due to meningitis; or less commonly to traumatic inflammatory softening of the brain.
3. Simple atrophy. In such cases sight often fails, while the atrophy develops ophthalmoscopic signs later.
4. Gradual failure of sight, with slight and stationary papillitis, probably due to chronic interstitial neuritis in the nerve trunk. The first case which I shall report is best included in the fourth class, as the nature of the lesion, while necessarily somewhat uncertain, is best explained as a partial degeneration of the optic nerve following an interstitial neuritis of the nerve trunk.

CASE 1.—Philip L., aged 36, consulted me Jan. 22, 1896, because of rapidly failing vision. He gave the following history: Five weeks before seeking advice, while driving a team of horses, the pole of the carriage was struck by a rapidly moving trolley car. He was thrown to the ground, striking the right side of his head. For a few minutes he was dazed, but considered himself little hurt and was able to walk home with one of the horses, which survived the wreck. He worked as usual for four days, but was then compelled to give up because of headache, vomiting and pain in his back. Ten days after the accident he first noticed dimness of vision. There seemed to be a "mist in front of objects," and he was unable to read his instructions or to distinguish the numbers over the front doors. Two weeks after the accident, when his vision was so much reduced that he "could hardly get around," his eyes were examined by a very competent ophthalmic surgeon, who found very poor vision, dilated pupils, and negative ophthalmoscopic appearances. He thinks that his vision began to improve about four weeks after the injury, and now—five weeks later—he can read large letters by looking at them sidewise.

On examination I noted: Pupils dilated and fixed; amaurotic expression; moves his eyes rapidly to and fro, which, he affirms, enables him to distinguish objects more clearly. Right vision is 4/60; left vision, 1/60. He is unable to read any type. Field shows absolute central scotoma in each eye, about 25° × 20° in extent. Peripheral fields are normal. The ophthalmoscopic examination showed almost emmetropic refractive condition, low-grade optic neuritis with one or two small fresh hemorrhages on and near the nerve-head. The retinal veins are swollen and tortuous; the nerve-head is slightly swollen, of dirty, reddish-gray color, especially dense on nasal edge. The temporal edge is clearer, and the outer fourth of disc is pallid looking. Both direct and indirect methods show complete veiling of the upper, lower, and inner nerve edges, and the swollen portion is seen to be composed of striated nerve fibers, with small red points like minute hemorrhages mingled with gray inflammatory exudate.

There was no evidence of syphilis. He was married and had healthy children. He had never suffered from any illness whatever; his habits were most temperate, and he was apparently in vigorous health. Urine was 1018; negative tests for albumin and sugar; no sediment. The diagnosis of descending neuritis from localized traumatic meningitis at the base of brain, involving the optic nerves, was made. The treatment was heroic in view of the serious nature of the lesion. Mercury was pushed by inunction and iodid of mercury in pill form until marked symptoms of ptyalism developed. In about three weeks he was placed on ascending doses of potassium iodid until his daily dose reached 120 grs.; his vision improved but little, and the nerves passed slowly into an atrophic state. Three months afterward, his vision and scotoma remaining about the same, he was given strychnin in increasing doses and pilocarpin ⅛ gr. hypodermically, three times a week.

Slight improvement resulted, but the final vision gained was 4/60 for each eye, in December, 1896. When last seen, January, 1900, his vision was 10/200, and the ophthalmoscope showed apparently complete atrophy of the discs. The peripheral field remains excellent; and owing to this fact he is able to go around without difficulty. There is still an absolute central scotoma surrounding the fixation point.

We have here a comparatively slight injury to the head, after which the patient, though dazed, was not unconscious. He was able to walk to his home and reported for work the next day, being inconvenienced only by a general bruising of his body. For a week after the injury he suffered severely from headache and pains in the back. On about the tenth day he first complained of visual symptoms. Both pupils were widely dilated and fixed, and the optic nerves, examined by a confrère, presented nothing abnormal. In from three to four weeks after the injury, a low-grade optic neuritis manifested itself. Central vision was greatly reduced and an absolute central scotoma was then mapped out, which has remained permanent. The eyes passed into a condition of partial atrophy and his final central vision nearly five years after the accident is 10/200 with absolute central scotoma and a normal peripheral field.

In the trial which followed, the medical testimony for the defense included an attempt to attribute the neuritis to some general systemic cause, but as there was an entire absence of any constitutional disease, the patient enjoying vigorous health both before and since the accident, and in the light of previously reported cases, similar injury was shown to have produced like results, damages were justly given in favor of my patient, for partial loss of eyesight. Toxic neuritis was excluded after most careful investigation.

We are concerned here with the difficulty of explaining the exact nature of the damage evidently inflicted on the optic nerve at some distance behind the eye-ball. There was probably an axial neuritis, producing almost complete central blindness, with intact peripheral field. This is not the usual picture of fracture of the orbit passing through the optic foramen. The injury was bilateral and the visual fields singularly affected in the central portion only.

Our present anatomic knowledge of the course of the macular fibers behind the eye-ball places them in a position apparently inaccessible to injury, without affecting the fibers supplying the periphery of the retina; *but after a careful study of the clinical facts,* I am inclined to believe the bilateral injury affected the axial fibers in each optic nerve, as a result of traumatic shock. Gowers says, in his work on "Medical Ophthalmoscopy": "Blows on the head commonly produce atrophy by direct injury to the nerve, but it is probable that they occasionally cause, by the effect of the shock, a gradual degeneration." He lays stress on the early loss of vision in these cases, with later ophthalmoscopic findings. He states that in some cases an injury to the head may be followed by a gradual failure of sight, with slight, stationary papillitis, probably a chronic interstitial neuritis in the nerve trunk.

There were no marked symptoms in my patient's case of traumatic meningitis, although he suffered from severe headache, some vomiting, and backache. In the discussion of Callan's article, "Transactions of American Ophthalmological Society," 1891, Dr. Myles Standish reported two cases of great medicolegal interest. Two individuals claimed damages for blindness said to have been caused by a blow on the head. Pupils reacted to light, and there was no ophthalmoscopic change, so that he reported malingering; but to his chagrin, both cases showed complete monocular atrophy and absolute blindness when examined three months later. Dr. Lippincott, at the recent meeting of the American Ophthalmological Society, related a similar experience.

Case 2.—John H. P., aged 10, was seen in consultation *with Dr. F. A. Packard, April 9, 1894.* The following history was obtained: Four days ago, without warning, he awoke with severe frontal pain and fever. Temperature was 101; pulse, 100. There was slight stupor, but the patient could be easily aroused. Light caused irritation and complaint, and yesterday he first noticed diplopia. Dr. Packard reported that there had been no marked strabismus. Today there is intense frontal headache and some occipital pain; slight retraction of the head; and on sitting up, he complains of pain in the back. The left ear shows a bluish discoloration from a blow on the left side of the head, received five days before by being pushed against a lamp-post by a playmate. I noted the following ocular conditions: Marked convergent strabismus, homonymous diplopia, except when candle was held directly in front. Each eye can be moved outward, so that the cornea touches the outer canthus; but it can not be held there, as the eye, after a series of jerks, is carried inward. There is evidently paresis of the externi, or spasm of the interni. Left outward rotation seems to be more defective and accomplished with greater difficulty than on the right side. Pupils are "large medium," but responsive, slightly less so on the left side. Some pain is felt in the left eye when it is pushed back into the orbit.

The ophthalmoscope shows in the left eye marked optic neuritis. Nerve edges swollen and obscured by retinal striation; veins swollen and tortuous; arteries not reduced in size, but the vessels are partly hidden near the disc by retinal edema. The summit of swollen disc is seen with + 5 D.; macular pigment, with + 2½ D. Right eye shows media clear; hypermetropia, 2 D.; nerve head not swollen; no retinal haze. The fundus presents usual changes of hypermetropia. On the following day, convergent strabismus was more marked. He closed one eye, usually the right, to get rid of the annoying diplopia. Temperature was 99; patient bright and cheerful. Vision roughly tested with small type, seems to be unaffected. The treatment instituted was calomel, gr. 1/6 every hour. Mercurial inunctions night and morning.

April 13: Now fixes constantly with the right eye, closing the left. Left-sided ptosis appeared to-day. Ophthalmoscope shows no alterations in fundus since last examined.

April 14: Mercurial inunctions stopped, patient being ptyalized. Ophthalmoscope shows less marked venous stasis, but no nerve edges are yet made out. Atropin is ordered for each eye. Four days later there was continued improvement in both the general and local symptoms. Convergent strabismus was less marked. Summit of nerve +5 D., and its edges hidden to both direct and indirect methods. One week later, and almost three weeks after the accident, the ptosis had almost disappeared; there was no strabismus. Diplopia was noticed only in the extreme outer field.

April 22: Ophthalmoscope now shows temporal edge beginning to appear. Disc, dull-red, as seen through a fog, and slightly swollen. One week later there were no signs of ocular paralysis and the nerve-head had almost regained its normal condition. By the middle of May, atropin was stopped, glasses correcting his refractive error having previously been ordered. The patient has had no further symptoms of the ocular trouble. His vision and eye grounds are normal.

The interesting points in the case are the irritative symptoms, namely, spasm of convergence and photophobia, due to traumatic meningitis of the anterior portion of the skull, followed by paresis of the left external rectus and levator palpebræ superioris, with left optic neuritis. The association of paralysis of a branch of the third, with paralysis of the sixth nerves, and optic neuritis on the same side, make it possible to locate the intracranial lesion at or near the sphenoidal fissure.

Cases of traumatic paralysis of the ocular muscles are by no means rare, the external rectus suffering most frequently; but the association of no less than three of the cranial nerves, as occurred in this case, seemed, in my opinion, to justify this report.

DISCUSSION.

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That the nervous system is generally, and the pneumogastric nerves are especially, implicated in pulmonary consumption, and that any therapeutic agent which affects this disease favorably and permanently either appeals directly or indirectly to the pulmonary organs through the nervous system, have been regarded by me as cardinal truths for more than a dozen years. This is clearly confirmed on its pathologic side. For, it may be said, that any influence or agent that has the power of undermining the integrity of the nervous system also has the power of generating pulmonary consumption, or some other form of pulmonary disease. Herein lies the reason why the insane, the idiotic, the epileptic, the hysteric, the asthmatic, the neurotic; why those who are subject to great grief, worry, mental overwork, disappointment, etc., and why those whose nervous systems suffer from the chronic intoxication of alcohol, syphilis, lead, mercury, etc., are much more prone to die of phthisis than others differently situated. On the other hand, when we review the therapeutic history of phthisis it will be found that those agents which have the greatest staying power against the ravages of this disease act almost exclusively by the support which they give to the nervous system. This is true of strychnin, the hypophosphites, atropin, cod-liver oil, cayenne pepper, arsenic, electricity, and other drugs and agents that are constantly employed in the treatment of this disease.

In keeping with this theory I made an effort some years ago to reach the lung condition of this disease through the pneumogastric nerves by massaging, kneading and compressing them through the overlying textures in the neck. This benefited the cough and expectoration and improved the patients in other ways, but it became evident after a while that the influence of this measure did not possess sufficient stimulating power to make it of decided value. I then had in mind to stimulate these nerves by stretching them according to the methods of M. Jaboulay,[1] who had obtained good results from this operation in severe cough associated with exophthalmic goiter, when it appeared to me that the subcutaneous introduction of some well-known conservative irritant, like nitrate of silver, immediately over the course of the nerves in the neck might furnish the stimulus necessary to modify the morbid condition of the lungs. That counter-irritation over the trunk of a nerve serves to enhance the tone and resistance of the neuritis to some general systemic cause, but as there was an entire absence of any constitutional disease, the patient enjoying vigorous health both before and since the accident, and in the light of previously reported cases, similar injury was shown to have produced like results, damages were justly given in favor of my patient, for partial loss of eyesight. Toxic neuritis was excluded after most careful investigation.

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* Presented in a Symposium on Tuberculosis, to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Stretching the Pneumogastric Nerve, M. Jaboulay, N. Y. Medical Journal, May 7, 1898, abstracted from Lyon Medical, April 17, 1898.

We are concerned here with the difficulty of explaining the exact nature of the damage evidently inflicted on the optic nerve at some distance behind the eye-ball. There was probably an axial neuritis, producing almost complete central blindness, with intact peripheral field. This is not the usual picture of fracture of the orbit passing through the optic foramen. The injury was bilateral and the visual fields singularly affected in the central portion only.

Our present anatomic knowledge of the course of the macular fibers behind the eye-ball places them in a position apparently inaccessible to injury, without affecting the fibers supplying the periphery of the retina; but after a careful study of the clinical facts, I am inclined to believe the bilateral injury affected the axial fibers in each optic nerve, as a result of traumatic shock. Gowers says, in his work on "Medical Ophthalmoscopy": "Blows on the head commonly produce atrophy by direct injury to the nerve, but it is probable that they occasionally cause, by the effect of the shock, a gradual degeneration." He lays stress on the early loss of vision in these cases, with later ophthalmoscopic findings. He states that in some cases an injury to the head may be followed by a gradual failure of sight, with slight, stationary papillitis, probably a chronic interstitial neuritis in the nerve trunk.

There were no marked symptoms in my patient's case of traumatic meningitis, although he suffered from severe headache, some vomiting, and backache. In the discussion of Callan's article, "Transactions of American Ophthalmological Society," 1891, Dr. Myles Standish reported two cases of great medicolegal interest. Two individuals claimed damages for blindness said to have been caused by a blow on the head. Pupils reacted to light, and there was no ophthalmoscopic change, so that he reported malingering; but to his chagrin, both cases showed complete monocular atrophy and absolute blindness when examined three months later. Dr. Lippincott, at the recent meeting of the American Ophthalmological Society, related a similar experience.

Case 2.—John H. P., aged 10, was seen in consultation with Dr. F. A. Packard, April 9, 1894. The following history was obtained: Four days ago, without warning, he awoke with severe frontal pain and fever. Temperature was 101; pulse, 100. There was slight stupor, but the patient could be easily aroused. Light caused irritation and complaint, and yesterday he first noticed diplopia. Dr. Packard reported that there had been no marked strabismus. Today there is intense frontal headache and some occipital pain; slight retraction of the head; and on sitting up, he complains of pain in the back. The left ear shows a bluish discoloration from a blow on the left side of the head, received five days before by being pushed against a lamp-post by a playmate. I noted the following ocular conditions: Marked convergent strabismus, homonymous diplopia, except when candle was held directly in front. Each eye can be moved outward, so that the cornea touches the outer canthus; but it can not be held there, as the eye, after a series of jerks, is carried inward. There is evidently paresis of the externi, or spasm of the interni. Left outward rotation seems to be more defective and accomplished with greater difficulty than on the right side. Pupils are "large medium," but responsive, slightly less so on the left side. Some pain is felt in the left eye when it is pushed back into the orbit.

The ophthalmoscope shows in the left eye marked optic neuritis. Nerve edges swollen and obscured by retinal striation; veins swollen and tortuous; arteries not reduced in size, but the vessels are partly hidden near the disc by retinal edema. The summit of swollen disc is seen with + 5 D.; macular pigment, with + 2½ D. Right eye shows media clear; hypermetropia, 2 D.; nerve head not swollen; no retinal haze. The fundus presents usual changes of hypermetropia. On the following day, convergent strabismus was more marked. He closed one eye, usually the right, to get rid of the annoying diplopia. Temperature was 99; patient bright and cheerful. Vision roughly tested with small type, seems to be unaffected. The treatment instituted was calomel, gr. 1/6 every hour. Mercurial inunctions night and morning.

April 13: Now fixes constantly with the right eye, closing the left. Left-sided ptosis appeared to-day. Ophthalmoscope shows no alterations in fundus since last examined.

April 14: Mercurial inunctions stopped, patient being ptyalized. Ophthalmoscope shows less marked venous stasis, but no nerve edges are yet made out. Atropin is ordered for each eye. Four days later there was continued improvement in both the general and local symptoms. Convergent strabismus was less marked. Summit of nerve +5 D., and its edges hidden to both direct and indirect methods. One week later, and almost three weeks after the accident, the ptosis had almost disappeared; there was no strabismus. Diplopia was noticed only in the extreme outer field.

April 22: Ophthalmoscope now shows temporal edge beginning to appear. Disc, dull-red, as seen through a fog, and slightly swollen. One week later there were no signs of ocular paralysis and the nerve-head had almost regained its normal condition. By the middle of May, atropin was stopped, glasses correcting his refractive error having previously been ordered. The patient has had no further symptoms of the ocular trouble. His vision and eye grounds are normal.

The interesting points in the case are the irritative symptoms, namely, spasm of convergence and photophobia, due to traumatic meningitis of the anterior portion of the skull, followed by paresis of the left external rectus and levator palpebræ superioris, with left optic neuritis. The association of paralysis of a branch of the third, with paralysis of the sixth nerves, and optic neuritis on the same side, make it possible to locate the intracranial lesion at or near the sphenoidal fissure.

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In keeping with this theory I made an effort some years ago to reach the lung condition of this disease through the pneumogastric nerves by massaging, kneading and compressing them through the overlying textures in the neck. This benefited the cough and expectoration and improved the patients in other ways, but it became evident after a while that the influence of this measure did not possess sufficient stimulating power to make it of decided value. I then had in mind to stimulate these nerves by stretching them according to the methods of M. Jaboulay,[1] who had obtained good results from this operation in severe cough associated with exophthalmic goiter, when it appeared to me that the subcutaneous introduction of some well-known conservative irritant, like nitrate of silver, immediately over the course of the nerves in the neck might furnish the stimulus necessary to modify the morbid condition of the lungs. That counter-irritation over the trunk of a nerve serves to enhance the tone and resistance of the region to which the latter is distributed is a well-recognized therapeutic principle in other fields of disease. Thus, the influence of acupuncture, and of stretching the sciatic nerve in sciatica, the application of a blister over the root of a spinal nerve in herpes-zoster, or an intercostal neuralgia, are well-known examples of this class of remedies.

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Nitrate of silver was selected for this purpose, not because it was believed to be the only agent that could furnish the requisite degree of stimulation, but because more was known concerning its hypodermic use and action than of some others that might have been employed. In searching for the proper dose to be injected it was found, after many trials, that 5 minims of a 2.5 per cent. solution of this agent answered the purpose best in the greatest number of cases, preceded by a cocain solution of the same strength and dose—the latter being used to abate the pain which would be produced by the former when given alone. The point of introduction is immediately over, or slightly behind, the pulsating carotid artery in the neck, between the angle of the lower jaw and the clavicle. In order to avoid puncturing the underlying blood-vessels it was important to lift the skin between the thumb and the forefinger of the left hand and to push the needle just through the skin. To introduce these agents the following is a very practical plan: Inject the cocain solution, detach the syringe from the needle, and let the latter remain in the puncture. Wash out the syringe with water, draw the silver solution into the syringe, attach the latter to the needle and throw in the required amount. Or a double-barreled syringe containing a single nozzle, to which is attached the needle, may be used. One barrel is filled with the silver and the other with the cocain solution, and the required quantity of each may be injected without detaching the syringe from the needle. The cocain solution should be renewed once a week.

The side of the neck in which the injections are administered is of considerable importance. As a rule, the first injection, and most of its successors, should be given on that side below which the involved lung is located; for it will be found that the vagus on the side of the affected lung is in many phthisical persons more sensitive to pressure than the one on the other side—indicating that the lung and the nerve of that side are simultaneously involved.

The number of injections which are necessary depends on circumstances. The first injection is repeated in a week or ten days, unless there remains too much local irritation. The same interval should elapse between all the successive ones. In urgent cases due to excessive cough I have repeated the injection in three or four days. When both lungs are involved I have in a number of instances given an injection on each side at the same time. There is no special limit to the number of injections that may be given. Twenty-one is the highest number I gave to one patient.

The local effects of the injections show themselves in a nodular, sometimes in a diffuse swelling, and in redness and pain, but in no instance have they become extremely pronounced. Small abscesses do occur occasionally, and in more than two thousand injections, sloughs have occurred twice; but the latter result was probably due to the fact that two successive injections were made in too close proximity to one another. This is to be avoided. So far as my experience extends, the abscesses do no harm, and may do good, inasmuch as they prolong the counterirritant effect.

I have used the silver injections in more than a hundred and fifty cases of pulmonary consumption—extending over a period of twenty-one months—and I now take the liberty of analyzing this therapeutic experience in so far as it has any bearing on the symptoms of this disease. This experience is based partly on that obtained in 40 cases of phthisis, treated with the silver injections since September, 1898,[2] and partly on over a hundred cases treated since in the same way. The results of treatment in the above-named 40 cases after the lapse of about a year and a half is as follows: There were 7 incipient cases. All of these are well and at work, except one. He had a slight relapse during last winter, but responded to the injections a second time, and is well again. Eighteen were in the second or advanced stage. Of these, 5 died, 2 continue invalids and 11 are well and at work. Of the 15 in the third or far-advanced stage, 12 are dead, and 3 alive, 2 of whom are able to be about and do light work. In regard to the high death-rate among the far-advanced class, it may be said that 7 of these were certain to die when the injections were begun—the latter having been given merely for the purpose of ascertaining their influence on such cases. Taking it altogether, therefore, there remains a little over 50 per cent. of the patients of all stages of the disease who are practically well at the end of a year and six months.

The influence of the injections on the symptoms of phthisis may be summed up as follows:

Cough and Expectoration.—Most patients testify that the cough, and especially the expectoration, are increased during the first and sometimes the second day subsequent to the injections, and then gradually diminish. I have seen both cough and expectoration practically relieved by one or two injections in some incipient as well as in some advanced cases. In far-advanced cases their action on these symptoms is less marked, although on the whole it is beneficial. Besides their beneficial influence on the cough and expectoration, the injections also relieve dyspnea and oppression in the chest. This property is well shown in the alleviation which they give to the symptoms of asthma. One consumptive patient, who spent over a year in the Rocky mountains, and who has received a number of injections since his return, stated that "the injections seem to have an effect on respiration similar to that which is produced by a high altitude, inasmuch as I must breathe stronger, deeper and quicker for a day, and sometimes longer, after each insertion." In a paper published in the *Philadelphia Medical Journal* of June 2, 1900, Dr. Richard B. Faulkner, of Pittsburg, stated that in the *New York Medical Record*, of September 25, 1880, he reported a case of a lady, aged 50, a life-long asthmatic, who suffered continuously for 40 days with an attack, and in which morphin, nauseants, antispasmodics, and everything had failed. At the end of this time he applied counter-irritation over the course of the vagus, and relief followed so rapidly and absolutely that ever since he considered this one of the most important of all therapeutic measures. In a number of cases I have seen similar relief follow in the symptoms of asthma from the counterirritation which is caused by the injection of the silver nitrate over the vagus in the cervical region.

Vomiting.—This is one of the most annoying symptoms of phthisis in its lesser stages. It commonly occurs after meals, and is nearly always preceded by cough. The injections measurably control it. A female with incipient infiltration of the right apex, and who is now in her fifth month of pregnancy, was at once relieved of her nausea and vomiting incidental to her pregnant condition after the first injection, which she received over a month ago. This may be a mere coincidence, but it deserves mention since the gastric disorder ceased after the silver was administered.

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[2] Philadelphia Medical Journal, Feb. 11, 1899.

Appetite.—The power of eating is frequently increased, and sometimes to a remarkable degree. This was, of course, most noticeable in the incipient and advanced, although it also held true in some of the far-advanced cases.

General Strength.—This was greatly benefited in most of the incipient and advanced cases, and also in a number of the far-advanced cases, especially if the injections were combined with regular systematic rest. How to account for the improvement in this respect, which sometimes follows immediately after an injection, is perhaps difficult to explain, but the fact exists and forces itself too often on one's attention to escape notice.

Physical Signs.—In many of the incipient, in some of the advanced, and in a few of the far-advanced cases, there was noticed a pronounced betterment in the physical signs.

Fever.—A reduction of temperature has been observed frequently by the writer. This has also been noticed by others.

Night-Sweats.—In a number of cases night-sweats have ceased.

Weight.—The gain in flesh is principally confined to incipient and advanced cases, but it has also been noted to some extent in far-advanced cases. Indeed, this phenomenon, as it has shown itself in some instances, is really surprising, since it seems barely possible that an almost insignificant quantity of nitrate of silver thrown into the neck once a week should, as I have observed in a number of cases, increase the weight from 4 to 6 pounds a week. Thus, of five patients who have gained most, one gained 5 pounds the first week after the injections were begun, 6 pounds the second, 4 pounds the third, and 3 pounds the fourth week. Another lost 1 pound in two days immediately preceding the first injection, gained 1 pound first week after injection, 4 pounds in second, 3 pounds in third, and 4 pounds in fourth week. Another lost 3 pounds in the five days immediately preceding the first injection, gained 2 pounds in first week after injection, 3 pounds in second, 2 pounds in third, and 4 pounds in fourth week. Another lost 1 pound during week preceding first injection, gained 3 pounds in week after first injection, 4 pounds in second week, and 2 pounds in third week. Another gained 7 pounds in six days after first injection, 3 pounds in second, and 2 pounds in third week. Not all the patients who were benefited by the injections gained in flesh, however, for some lost in weight, or remained at a standstill while improving in every other respect. In regard to other treatment which my patients received, it may be said that some took quinin., strychnin and the hypophosphites, while a number of them in the very early history of the introduction of the treatment, received nothing but peppermint water, or some other placebo. So far as food is concerned, it may be stated that some were nourished well in their homes and in a hospital, yet a number were dispensary visitors, and were naturally subject to the vicissitudes of food-supply that are incidental to the poorer classes of society.

Herewith is given an abstract of the history of 10 cases which were treated with the silver injections.

INCIPIENT CASES.

Case 1.—C. F., colored, age 25, married, was seen first January 5, 1899, when she said she coughed since 1898. Her cough was constant and she suffered a good deal from dyspnea. There were impaired percussion resonance in left supraclavicular fossa, roughened respiration and sonorous râles in same area and extending to a point below the clavicle and into the supra-scapular fossa, on same side. Her weight was 119½ pounds. Five minims of a 2.5 per cent. solution of silver nitrate was injected into the left side of her neck, and she was given a teaspoonful of peppermint water three times a day. January 7 she presented herself and reported that cough and expectoration were very much improved. January 12, she was better in every respect. Physical signs were much improved; weight, 122 pounds. March 7, physical signs gone, except impaired percussion resonance; coughs scarcely any; weight 125½ pounds.

Case 2.—L., Male, aged 27, colored and married, was first seen Dec. 23, 1898, when he said that he coughed and expectorated a great deal during the last eight or nine years. Has anal fistula of some months' duration. His physical signs consisted of dulness, and moist râles in the left apex, extending to the middle of the chest in front on same side, also of dulness and a few moist râles in the left supra-scapular fossa; his weight was 120 pounds. Tubercle bacilli were found in his sputum. He had, under the direction of another physician, been taking half-teaspoonful doses of equal parts of comp. tincture of cinchona, and of syrup of the hypophosphites four times a day, for several weeks. December 27, his weight was 119 pounds, and his general condition the same. Injected 5 minims of a 2.5 per cent. solution of silver nitrate into the left side of his neck. No other internal medicine except that which he took before. December 31, weight, 120¼ pounds. January 2, 1899, weight, 121½ pounds. January 6, weight, 124 pounds. He felt much better, and his cough and expectoration were almost entirely gone. Injected 5 minims of silver nitrate into left side of his neck. January 11, weight, 126¼ pounds; injected 5 minims into left side. January 13, weight 129 pounds. Same internal treatment as before. Physical signs improved. March 10, weight, 132 pounds; injected 5 minims into left side. January 20, weight, 133 pounds. He now went to work and continued at it until November 20, when his weight had sunk to 127 pounds, and as he said he "caught a cold." On January 16, 1900, his weight was 128 pounds, and he felt good. At present writing, May 25, he weighs 130 pounds, is working, and feels strong and good. There are some dry, but no moist râles in his chest, and the dulness remains about the same as it was. His evening temperature is normal. When we consider that phthisis in the colored race always offers a very stubborn resistance to treatment the results in this one particular case may, perhaps, be regarded rather favorably.

Case 3.—J., male, aged 25, colored, was seen first May 5, 1899. Had lost two brothers and one sister of phthisis, and had been sick for three months with cough, expectoration, loss of flesh, poor appetite and sleep, chills, dyspnea and great weakness. There were dulness in lower half of left lung anteriorly and posteriorly, and moist râles in same area. Weight, 166 pounds. Injected 5 minims 2.5 per cent. solution into left side of neck, and gave internally the syrup of hypophosphites and strychnin. May 11, weight was 167 pounds. Injected 5 minims of silver solution on right side of neck. May 18, weight was 171½ pounds. May 25, weight was 174 pounds. Injected 5 minims on right side. June 1, weight was 177½ pounds. Injected 5 minims on left side. June 9, weight was 176 pounds. Injected 5 minims on left side. June 15, weight was 180. June 22, weight was 180. Injected 5 minims into right side. June 29, weight was 182½ pounds; temperature, pulse, physical signs normal.

When last seen, six months ago, this patient was in good health. How he is at present I am unable to say.

Case 4.—P., aged 47, white, came under observation July 7, 1899. Had lost in flesh; dyspnea, poor appetite and cough and expectoration since previous January. No family history of lung disease was present. There were lessened respiratory movement in right chest, impaired percussion resonance in right apex and subcrepitation in latter area. Weight, 125 pounds. Injected 5 minims of silver solution into right side of neck, and internally he received syrup of the hypophosphites and strychnin. July 14, weight, 130 pounds. July 21, weight, 136 pounds. Injected 5 minims into left side. July 28, weight, 140 pounds. September 4, weight, 143 pounds. September 7, injected 5 minims on right side. September 12, weight, 145 pounds. September 19, weight 147 pounds. Injected 5 minims on right side. September 26, weight, 148 pounds.

This patient is doing well now.

ADVANCED CASES.

Case 5.—L., age 35, female, with a family history of phthisis; came under my observation September 12, 1898. She was among the first of those who received the injections. She had been sick for three years, and at this time she coughed and expectorated a great deal, felt tired and weak, had lost in flesh, had a poor appetite, and occasionally spat blood. Tubercle bacilli were found in her sputum. Her weight was 96¾ pounds. There were dulness and moist and sibilant râles in supra and infraclavicular regions on right side. On this date she received 3 minims of a 10 per cent. solution of silver nitrate, without cocain, in the right side of her neck—a dose which produced more irritation than necessary. She had been taking the syrup of the hypophosphites and strychnin, and these were continued. She began to improve in general strength, cough, expectoration and wheezing in the chest, and in a week had gained a pound, and was eating better. In two weeks an abscess had formed at the seat of injection, which discharged, and she weighed 100 pounds. She continued to improve, and altogether received eight injections. She gradually gained in flesh until now she weighs 112 pounds and is practically free from all cough and expectoration. The physical signs, except the dulness, have disappeared.

While this patient did not gather much in flesh, I think it is difficult to make her gain in this respect, for in the early period of her invalidism I treated her in the hospital for four months, and with all the best food and nursing that the hospital could give her she only gained 4 pounds—from 102 to 106—in that time. On the other hand, she gained more readily under the silver-nitrate injections, although she was not receiving the good care and the nourishing food that she obtained in the hospital.

Case 6.—C., aged 69, laborer, was first seen September 1, 1898, when he said he had been coughing for eight months and had very profuse yellow and thick expectoration, dyspnea, palpitation, vertigo and a poor appetite, but was without a family history of phthisis. There were dulness in left supra- and infraclavicular regions and sibilant and crepitant râles over the whole chest. On September 27, he received 5 minims of a 1 per cent. solution of silver nitrate into the left side of his neck. October 4 he weighed 132¼ pounds. October 11, he weighed 132½ pounds, and received 5 minims of a 2.5 per cent. solution of silver nitrate into the left side of his neck. November 5, he was very much improved, his weight was 139 pounds, and 5 minims of the silver solution were injected into the right side of his neck. November 17, he coughed very little, had no expectoration and weighed 142 pounds: 5 minims of a 2.5 per cent. solution were injected into the right side. December 3, he weighed 142 pounds, and received 5 minims of a 2.5 per cent. solution into the right side. January 10, 1900, he weighed 143 pounds, and received same dose of silver on right side.

Case 7.—H., male, aged 42, came under treatment October 4, 1898. He coughed and expectorated for ten years. During the last two years his condition became much aggravated. He was tired, had much dyspnea, and spat blood occasionally. There were dulness in the upper and middle parts of his left chest anteriorly, and mucous râles in the same area. Weight was 133 pounds. Injected 5 minims of a 2.5 per cent solution of silver nitrate into left side of his neck. October 25, same injection; weight, 138 pounds. November 12, same injection; weight, 140¼ pounds. May 12, 1900, weight, 146 pounds. Feels well and has been working for a year. Physical signs, except dulness, have disappeared.

Case 8.—R., aged 43, blacksmith, married, and sick for one year, was seen first December 20, 1898. He then had a great deal of cough, profuse expectoration, chills, fever and night-sweats, and also spat some blood; morning temperature was 101.6. He had lost about thirty pounds in flesh, and weighed 137 pounds. He had pleurisy in the right lung, and partial infiltration of the whole of the lung on the same side.

He received the usual quantity of silver solution, and gained 7 pounds in six days after the first injection. He received no other medicine. He was very poor, on account of his protracted sickness, and lived on the charity of his friends. In six weeks after the first injection was given he went to work at his trade, and has remained at it ever since. He had not been able to work for eight months before he came under my care. He received altogether 18 injections, at the usual intervals, and gained altogether 28 pounds. All his physical signs cleared up and his symptoms disappeared.

FAR-ADVANCED CASES.

Case 9.—M., male, aged 47, chronic alcoholic, came under my care May 19, 1899. No family history of phthisis. He coughed a great deal and had profuse expectoration. His appetite was poor, bowels loose, and his breathing embarrassed, and he had lost a good deal of flesh. His weight then was 145 pounds. There was dulness in left apex extending to second intercostal space in front and to spine of scapula. In this area there were numerous moist râles and a small excavation below the clavicle. Tubercle bacilli were found in the sputum. He received nine silver injections altogether, together with strychnin, quinin and salicylate of soda, internally, and he gradually lost flesh for a month, when he weighed 137½ pounds. After this he gained, and two months later he weighed 142½ pounds.

A short time after this he went to work at his trade, and has been engaged at it steadily since. He now weighs 145 pounds, and has a normal pulse, respiration, and temperature. The physical signs have all disappeared, except the dulness, which still remains, although in a less pronounced degree, and the location of the cavity can scarcely be made out.

Case 10.—S. C., male, aged 25, clothier, came under observation September 8, 1899, when he stated that he had been coughing and expectorating for two years, also had night-sweats, much dyspnea, poor appetite; frequently vomited, and had lost flesh. He weighed 117½ pounds. There was dulness in the left supra- and infra-clavicular regions, together with moist râles over this area, and a good-sized cavity below the clavicle. Tubercle bacilli were found in his sputum. He began to improve in cough, expectoration, vomiting, dyspnea, night-sweats and physical signs after the first injection. He gained 12½ pounds in flesh and has followed his vocation for four months. The physical signs are very much improved, and he received altogether fifteen injections.

The deductions which may be drawn from the above-described action of the silver nitrate injections are—

1. That their best results are obtained in incipient cases, both in regard to the symptoms and physical signs.

2. That in most of the advanced cases they have a beneficial and, in some instances, an exceptional influence on the symptoms and physical signs.

3. That in the great majority of the far-advanced cases they ameliorate cough, expectoration, and other

symptoms temporarily, while in some instances their effects are apparently lasting.

In conclusion, it may be urged that the injections are too simple—too insignificant—to be of service in the treatment of phthisis, but any one who takes a broad and impartial view of the whole field of phthisiology must feel that the essential method of alleviating phthisis does not and can not consist of a complicated mechanism. This must be true, or in what other manner can we account for the so-called spontaneous cures—the healed phthisical lesions found in many lungs on the post-mortem table or in the dissecting-room, in which death did not result from phthisis? The cure in these instances—for cure it undoubtedly is—was simple; was not brought about by the administration of formidable doses of refined remedies, or was not the outcome of special treatment administered through complicated machinery and expensive paraphernalia; but in all probability it was the sequence of some change of habit, or was effected by calling into play some new influence of a terrestrial, social, psychic, or moral character, which diverted the abnormal movement into a channel of health so gradually and so imperceptibly as to elude, perhaps, even the consciousness of the patient. By this I do not wish to convey the idea that the cure of the disease is always readily and easily accomplished by art, but that this is possible in many instances does not admit of doubt; and if we are not able to do as well or better than nature, we ought to follow the example of the immortal Sims, who, in his despondency after the loss of his two first patients, tore his shingle off the window, threw it into the well, and vacated the town.

TUBERCULOSIS OF THE LUNGS TREATED BY COMPRESSION WITH NITROGEN AFTER THE METHOD OF MURPHY.

WITH FURTHER REMARKS ON THE RATIONALE OF THE PROCEDURE AND A RECORD OF EXPERIMENTS ON DOGS.*

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More than two years have elapsed since the idea of artificially compressing a tuberculous lung was put into extensive practice. During this time the pathology of compressed tuberculous lungs has been carefully studied, the literature has been more thoroughly searched for the expressions of clinicians and pathologists as to the value of compression of tuberculous lungs, such as results from pleurisy with effusion, either serous or purulent, and a series of experiments on dogs has been made to determine the effect compression has upon healthy lung tissue and to observe what changes, if any, are to be found in the pleura as the result of the prolonged contact with these membranes of agents used for compression, such as nitrogen and normal-salt solution. At the Columbus meeting of the American Medical Association I reported in detail 53 cases of pulmonary tuberculosis, in its various stages, that had been treated by means of intrapleural injections of nitrogen. Many other cases were reported more briefly. Since that time about 100 new cases have been treated. Time and space will not permit a careful record of these cases, and I shall direct your attention to those cases in particular that illustrate some of the points I wish to emphasize. Furthermore the results are of little practical value at this time.

It will not be a waste of time to refer again to the overwhelming evidence, clinical and pathological, bearing on this point that is to be found in medical literature. I will direct your attention to the paragraph which appears in Stoke's work on "Diseases of the Chest," published in 1844, in which he says: "In many cases, where the disease—speaking of pulmonary tuberculosis complicated by pneumothorax—becomes chronic, we may observe a singular suspension of the usual symptoms of phthisis; the sweats cease; the pulse I have known in some cases to become quiet and the patient may gain flesh and strength to a surprising degree." Blakiston, in his work published in 1848, in the chapter on the termination of phthisis, cites several cases of recovery that bear on this question. In the works of Jaccoud, Williams, Cornet, Fowler and Godlee, Paget and a number of older as well as more recent writers, may be found cases of pulmonary tuberculosis either very much improved or cured as the result of some such complication as pneumothorax or pleurisy with effusion which kept up for some time a more or less thorough compression of the organ.

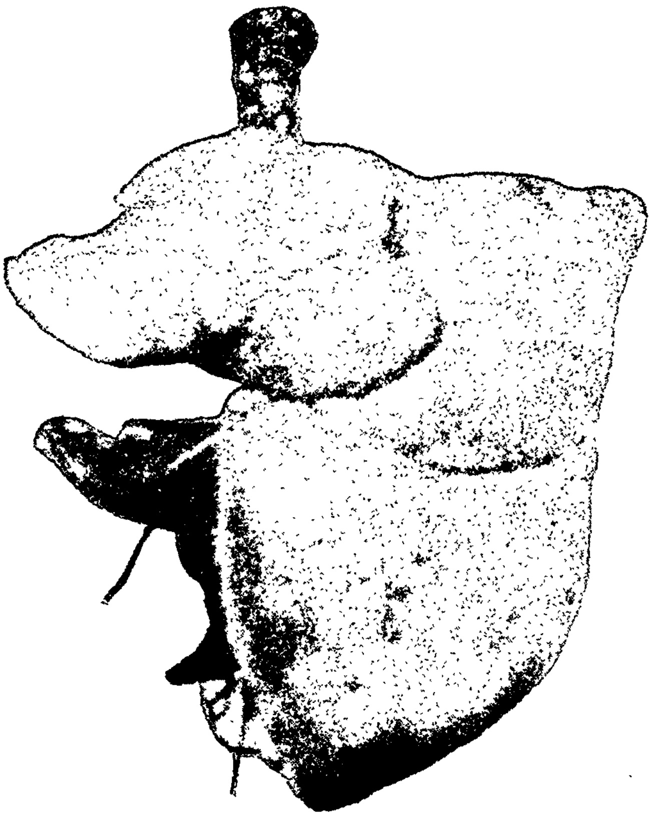

Fig. 1.—Normal right lung of dog.

You are all familiar with the very interesting chapter in the history of medicine that deals with the development of the operation of paracentesis of the thorax for pleurisies with effusion. You know how often this operation has been urged only to be condemned sooner or later by some one driven to do so by adverse experiences. Almost a constant warfare was kept up until Trousseau pointed out the indications for the operation that you are all familiar with. Since Trousseau's time some changes have been made in the indications, and I may say, without fear of contradiction, that at the present time, knowing, as we do from the experiments of Eichhorst and others, that more than one-half of the cases of pleurisy with effusion are tuberculous, the disease being secondary very frequently to tuberculosis of the lung, the tendency is to allow the fluid to remain, unless special indications arise to make its removal imperative. This question of the etiology of the ordinary pleurisy with effusion and the indications for the removal of the fluid has an important bearing on the question under discussion, but it is too complicated to be carefully considered at this time. I may mention, as briefly as possible, a case of pulmonary tuberculosis, complicated with pleurisy with effusion, that occurred in the practice of Dr. Murphy eight years ago, and that was largely responsible, I believe, for the ideas that led to his original experiment of injecting nitrogen into the pleural cavity to compress tuberculous lungs. The case was that of a middle-aged woman from LaSalle, Ill., who consulted him for pulmonary disease, which proved to be tuberculosis. Physical signs were detected over the entire left upper lobe and tubercle bacilli were demonstrated in the sputum. The woman was very much emaciated, the pulmonary disease rather widespread, and an unfavorable prognosis was made. Within a few weeks of her visit she developed left pleurisy with effusion, resulting in thorough compression of the lung, with a gradual improvement of pulmonary symptoms and finally a complete recovery from both pulmonary and pleural diseases. I had an opportunity of examining this patient two and one-half years ago, and the only evidence remaining of an old pulmonary tuberculosis was harsh, rough breathing over the left upper lobe. Symptomatically, she was perfectly well.

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* Presented in a Symposium on Tuberculosis, to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

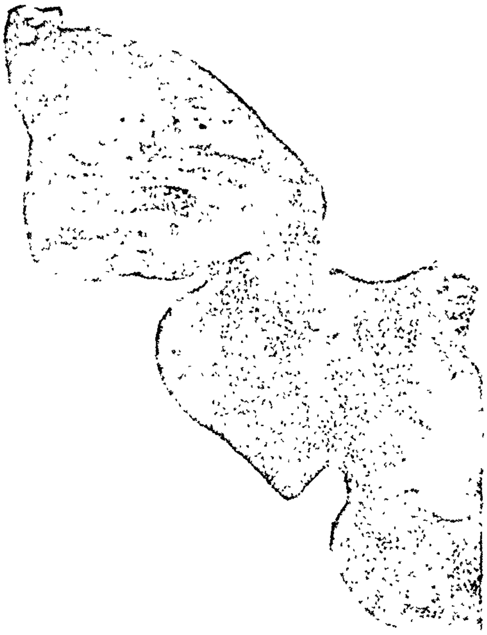

Fig. 2.—Compressed left lung of dog.

Last year Pinquet, of France, emphasized the desirability of maintaining pulmonary compression in pleurisy with effusion secondary to tuberculosis of the lung, and reported a case of tuberculization of the lung following thoracocentesis.

It has been urged that, if pleurisy with effusion is frequently, if not usually, secondary to tuberculosis of the lung, and even though many cases of pulmonary tuberculosis improve, or apparently recover, as a result of such compression, this change, it would seem, is only temporary, as is evidenced by the subsequent development of symptoms of active pulmonary disease. In this country we have the valuable statistics of Bowditch, who investigated the cases of pleurisy that occurred in his father's practice, and those of Osler, who reported, in his Shattuck lectures in 1893, that of 56 cases of pleurisy admitted to Johns Hopkins Hospital during the four years prior to his report, only four cases were known to have developed tuberculosis of the lungs subsequently. Späth[1] in an article, "Ueber Die Beziehungen der Lungencompression zur Lungentuberculose," cites a very interesting case to show the good effect of pleural effusion in preventing the dissemination of the infection into the compressed portion of the lung.

Observations on the favorable effect of compression of tuberculous lungs have not been limited to clinicians. Rokitansky made the observation that in spinal curvatures or other distortions of the thorax resulting in more or less compression of one or the other lung, tuberculosis of the organ so affected never occurred. In speaking of the effects of compression by pleural effusion, he said: "We may here further adduce the fact that the compression exercised by pleural effusion and a consecutive abiding increase of compactness of one lung as denoted by a sinking in of the thorax, in like manner extinguishes the tendency to tuberculosis."

It is a common observation in the dead-house that lungs that have been for some time tuberculous usually show considerable fibrosis in the neighborhood of the affected areas, and this is particularly true of diseased lungs that have been subjected to pressure such as pertains to empyema, in pleurisy with serous effusion, pneumothorax, etc. Knowing as we do that tuberculosis of the lung heals, and we know there is always a tendency in that direction, it is of prime importance to determine how such healing is brought about. It is by a process of cicatrization, as we are forced to admit by studying tuberculous lungs. This is true, at least of the ordinary productive lesions of the disease. It is barely possible that some of the purely exudative lesions may undergo a complete resolution. The rational procedure in attacking tuberculosis would seem to be by some means best suited to favor the fibrosis, which is recognized as an essential in the healing process of all pulmonary tuberculous lesions. A second and important point to be borne in mind is that a patient's life is not in great danger from the mere existence within his lung of a few localized tuberculous lesions, but of a dissemination of the infection throughout the lungs, and the question very naturally arises how, under ordinary conditions, it is brought about. The majority of cases

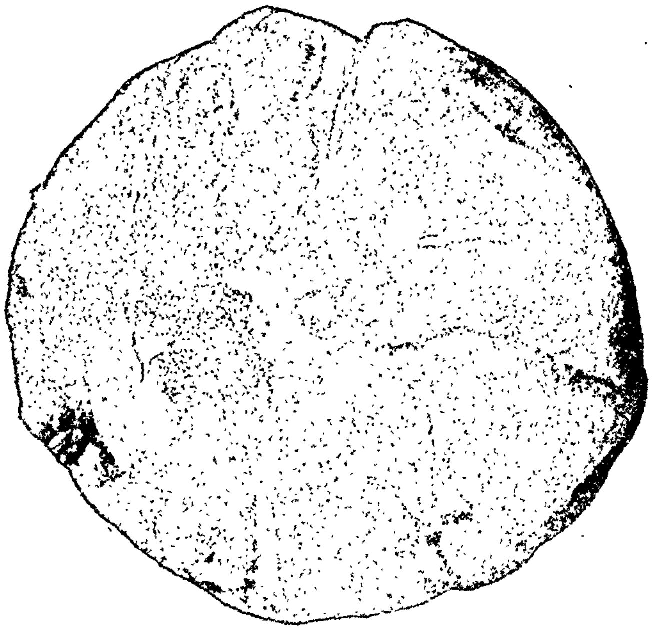

Figure 3a.

of pulmonary tuberculosis unquestionably begin with a single or with a few localized lesions usually in the apex nearer the posterior than the anterior surface, or, as Birch-Hirschfeld puts it, in the territory of the posterior apical bronchus. From this point the dissemination goes on more or less slowly through the bronchi and air cells, the lymph-vessels, and the blood-vessels. The two most important points to be considered in the local treatment of tuberculosis are: 1, how can we favor the fibrosis or cicatrization which constitutes the healing process of tuberculous lesions? and 2, how shall we prevent a dissemination of the infection that already exists? In answer to the first, let me call attention again to the pathological observations that an unusual degree of fibrosis is seen in tuberculous lungs that have been for some time subjected to pressure. Dunin[2] demonstrated, by a series of experiments on dogs that were made to determine the effect of compression upon the lung parenchyma, that in the neighborhood of small bronchi where slight infection had occurred there was a marked tendency to an overgrowth of fibrous tissue. When we stop to think of the mechanical condition of the lung we can readily understand that when this organ is subjected to a considerable pressure the various avenues by which infection is disseminated are occluded. The movements of the lung are diminished or absent and it is impossible for the softened material from foci that are breaking down to be aspirated into adjacent healthy portions of the organ. That compression must also exert a considerable inhibitory effect upon the lymph circulation in the lung is quite evident when we consider the physical state of the organ. Further than this, it is a well-known law of physiology that whenever an organ is put out of [illegible] circulation is impeded or abolished. Better than these theories, which explain in a very satisfactory way the imperviousness of a compressed lung to a dissemination of tuberculosis, are the findings in the dead-house, which show that whatever there may be in a compressed lung in the way of solitary or multiple tubercles, these lesions always bear evidence of age and of having antedated the condition which brought about the compression. Indeed, the question has been raised: Can fresh tubercles develop in a thoroughly compressed lung? For some time I have searched for material that will determine this question and I have never been able to find anything that might be looked upon as a recent tubercle in lungs that have been compressed for a considerable period. Relative to the same point, Fowler and Godlee[3] say: "It would indeed be strange if tubercular disease could make rapid progress in a lung which is bloodless and airless and in which, therefore, all the ordinary channels through which the virus of the disease is spread, viz., bronchi, vessels and lymphatics, are more or less obstructed." Rokitansky[4], again speaking of the curability of tuberculosis, says: "Tuberculous pulmonary consumption is unquestionably curable, as we may infer from the appearances not infrequently observed in the dead bodies of persons who formerly had more or less suspicious thoracic affections and subsequently recovered. It is only by an investigation of the conditions under which these natural cures take place that we can hope to arrive at a truly rational mode of treatment." And further, "If the abscess (tuberculous cavity) be not too large it closes by a gradual approximation of its walls, which finally come in contact and coalesce. We then find in place of the previous cavern a cellulo-fibrous mass in which the bronchi end in blind sacs. This is of most frequent occurrence in the apices of the lungs, where the coexistence of open caverns and the presence of obsolete and cretified tubercles indicate the nature of the process that is here going on. The obliteration of a cavity of considerable size always occasions a corresponding depression of the surrounding parenchyma and a cicatrix-like folding and puckering of the pulmonary pleura, which is most frequently and distinctly observed in the case of those cavities which are often superficially situated quite in the apices of the lungs. The thorax is also depressed to an extent corresponding with the size and number of the closing vomicæ, as is obvious from the flattening and slight depression so frequently observed in the clavicular region. This process is undoubtedly favored very essentially by certain circumstances, amongst which we may enumerate the local depression of the thorax, the contraction of the cavity in consequence of the diaphragm abnormally pressed upward by the contents of the abdomen, the development of the emphysema in the parenchyma surrounding the cavern and bronchial dilatation."

Aside from the fact that compression exerts a favorable influence over the healing process in tuberculosis by favoring fibrosis and by limiting the infection, that is, occluding the avenues by which the tuberculosis may become disseminated through the lung, we must consider the mechanical condition of a tuberculous lung from yet another standpoint, and I can do no better than to quote the remarks of Tidey:[5] "In health the respiratory capacity of the lung is commensurate with the semi-circumference of the thorax. The diseased lung may be regarded as decreased in bulk, so far as function is concerned, by the amount of lung tissue involved, and it follows that the best mechanical condition of respiration would be secured by reducing the thoracic cavity in proportion to the reduced bulk of lung. Natural processes of repair tend to secure these conditions, but only lead to complete cicatrization when the disease is of a limited extent. We find, then, clinically, a flattening of the chest wall, dislocation of adjacent organs or hypertrophy of the opposite lung. In so far as the inflammatory element in phthisis is concerned, rest and relaxation of the inflamed tissues seem indicated and essential to the healing process. The English schools aim at developing the latent resources of the lung so as to compensate for the loss of the respiratory surface." Tidey sums up the advantages of mechanical support as follows: 1, in early stages, to give comparative rest and relaxation to lung tissue; 2, in the stage of consolidation, to secure the same results, thereby limiting the risks of extension; 3, in the stage of cavitation, to promote the closure of cavities by directing healthy lung to encroach upon diseased areas, instead of relying entirely upon natural process of cicatrization; 4, diminished tendency to hemorrhage by reduced tension on vessel and cicatrical traction on walls; 5, the ultimate object is to obtain a smaller thoracic cavity filled with healthy lung instead of an enlarged thoracic cavity partly filled with diseased lung.

In a previous communication many references were made to the writings of some of the older authors on the subjects of pleurisy with effusion, pneumothorax, etc., complicating pulmonary tuberculosis. These it is useless to repeat. Many of the modern writers realize the advantage of compression in pulmonary tuberculosis. Cornet[6] says: "In fact, we find as the result of the development of pleurisy with effusion or of pneumothorax, not so seldom an improvement, even if temporary, of the condition (of the tuberculous lung) that is hardly to be explained other than that it is the result of the compression of tissues in the neighborhood of the tubercle."

The general proposition that compression exerted upon a tuberculous lung favors cicatrization, and therefore the healing process, and that, so far as we know, tuberculosis of the lungs always heals by fibrosis or cicatrization, can not be lost sight of. That there is an enormous tendency for tuberculous lesions in the lung to heal is apparent from the great quantity of statistics that have been gathered bearing upon this point. Some of the most valuable of these observations are those made by Harris,[7] who found that 39 per cent. of all individuals who died from causes other than tuberculosis gave evidence of healed or latent pulmonary tuberculosis. Schlenkir[8] found the same in 44 per cent. of the cases he examined. Birch-Hirschfeld[9] found, in an examination of 196 bodies dead from accidents, that 21.4 per cent gave evidence of healed or latent pulmonary tuberculosis. With this as a basis, we must conclude that, as far as local treatment is concerned, we have two important indications to be met. Both of these are pointed out to us when we study the pathology of the healing of tuberculosis in the lung. Given focus of tuberculosis in the lung, we must accomplish what nature always endeavors to do, first, to promote the development of scar tissue in and about the diseased area, and, until this is completed, to prevent the dissemination of the disease by occluding the various avenues that make this possible. Kurlow and Green (quoted by Cornet)' demonstrated that in areas of healed tuberculosis, made up entirely of scar tissue or of scar tissue enclosing calcareous material, no virulent bacilli were found. As long as the center of the focus is caseous, virulent bacilli are present and are capable of renewing the disease the moment the barrier is broken.

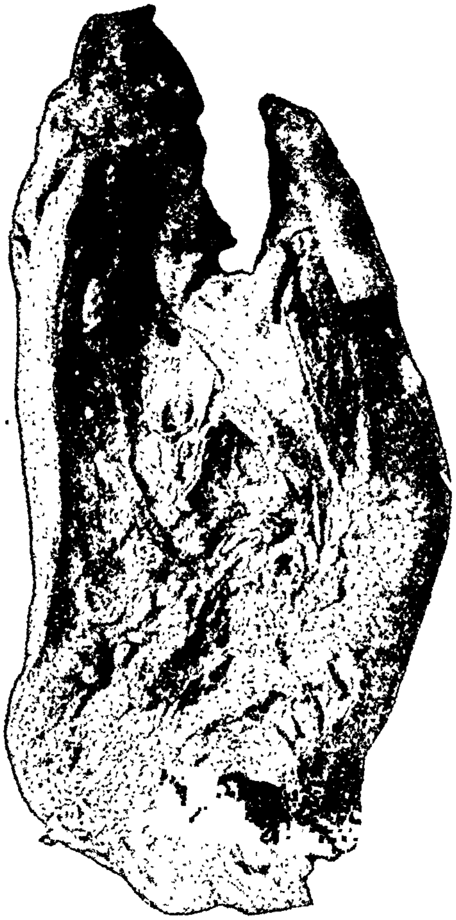

Figure 3b.

While there is no doubt that in the majority of cases the areas of healed tuberculosis consist of scars enclosing caseous or calcarous material, we may find as the only remnant of a tuberculous infection one or more thick-walled cavities, from which tubercle bacilli have disappeared. This may gradually and slowly heal as a result of contraction of its fibrous capsule, but much more commonly the mechanical conditions are such that definitive healing is impossible. In such cases these cavities may be a constant source of annoyance to patients, in that they have an active secreting surface which keeps up a continuous cough with expectoration. Case 5 of our first report[10] illustrates this condition very well. The patient was a strong, rugged man of 30, who had had tuberculosis of the right lung five years. During the first two years of his illness he coughed violently, expectorated freely and had several attacks of hemoptysis. His weight had been reduced from 160 to 117 pounds. During the third year he coughed and expectorated less and his weight reached 135 pounds. During the fourth year there was a gradual improvement. At the time of our first examination, September 5, 1898, he complained of having paroxysms of cough with much expectoration; he had no fever; his weight was normal, and he was able to be at work. There were no physical signs in the lung except scattered crepitant râles in the right lower lobe. Tubercle bacilli were demonstrated in the sputum. On September 7, 171 cubic inches of nitrogen were injected into the right pleural cavity. In this case we had supposed, on account of the paroxysms of cough with free expectoration, that a cavity existed which was more or less centrally located and which, therefore, gave rise to no physical signs. The compression was so thorough that the cavity was evidently emptied of its secretions, as the patient expectorated very freely immediately after the operation. He has been examined repeatedly since that time and every evidence of the disease in the lung had disappeared. There is no more cough or expectoration, and the patient even insists that the drum-stick finger ends and the curved nails are becoming less and less pronounced.

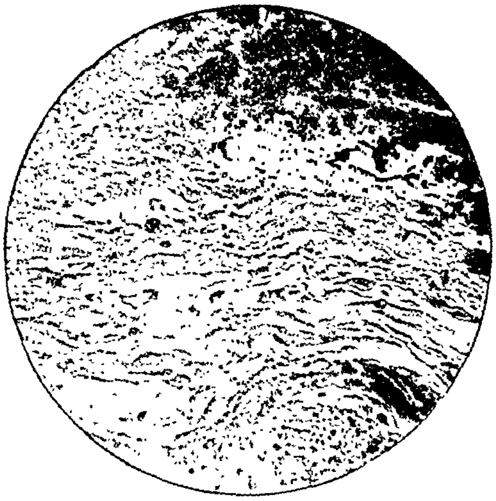

Fig. 4. – Fibroid area from compressed lung—high power. Section through a healed tubercle.

In our first publication on this subject, it was pointed out that pulmonary hemorrhage, the result of tuberculous disease, might readily be controlled by injecting nitrogen into the pleural cavity and thus thoroughly compressing the affected lung. Five cases of hemoptysis due to tuberculosis have been injected within the last year and in each instance it was possible to check the hemorrhage almost immediately. One of these, Mr. H. S., a very pale, anemic individual, consulted us for repeated attacks of blood-spitting. At the time of his first examination he was expectorating a bloody material, which upon microscopic examination contained great quantities of tubercle bacilli. There were physical signs over the entire upper lobe and a few scattered râles over the left apex. His weight was 147 pounds, a loss of ten pounds since the onset of the disease. The physical signs were so much more widespread over the right lung that it was concluded the hemorrhage had its origin there, and it was decided to inject the right pleural cavity with nitrogen and check the hemorrhage by thoroughly compressing the lung. The operation was repeated at intervals of one to three weeks until four injections had been made, when the physical signs had practically disappeared from both lungs; he had gained 23 pounds in weight, which was 12 pounds in excess of his normal weight, and all symptoms of disease had subsided. The hemorrhage was checked immediately after the first injection and has never recurred. In the other cases there was no difficulty in controlling the hemorrhage when it was possible to compress the lung thoroughly. At the last meeting of the American Climatological Society, H. P. Loomis, of New York, reported some cases of pulmonary hemorrhage treated by intrapleural injections of nitrogen and stated that he had never failed to control the hemorrhage absolutely. As early as 1885 Cayley[11] induced an artificial pneumothorax on the left side to check pulmonary hemorrhage. He simply made an incision in the thoracic wall, introduced a double tube and in that way created an ordinary open pneumothorax. During the night following Cayley's operation his patient had two attacks of hemoptysis, spitting up four ounces and two ounces of blood. This is the earliest record that I have been able to find of an attempt to check pulmonary hemorrhage by the induction of pneumothorax. The method of Cayley, it is very evident, gives rise only to a pulmonary collapse and is much more difficult and dangerous than the simple procedure of injecting the pleural cavity with nitrogen until an actual positive pressure is obtained and the lung not only collapsed but considerably compressed. Williams, in his work on pulmonary consumption, advised the introduction of a styptic solution—tannic acid—directly into the bleeding cavity. The objection to this procedure is that the exact point of bleeding can not usually be determined and that the method involves much more risk than the simple intrapleural injection of nitrogen. These cases of pulmonary tuberculosis associated with hemoptysis not infrequently develop a considerable fever and other symptoms indicating increased absorption at the site of disease or perhaps more or less acute dissemination of the infection, and it is interesting to note the rapid diminution of fever following the injections, indicating in all probability that the absorption of toxic substances is interfered with as the result of the thorough compression of the diseased organ.

One of the greatest dangers that confronts a patient who has pulmonary tuberculosis is the infection of his respiratory tract with organisms that give rise to what is ordinarily known as a secondary or mixed infection. The important part played by this secondary infection, such as the production of bronchitis, in that way favoring a dissemination of tuberculosis, and aiding in the softening and breaking down of tubercular foci is too well known to be considered in detail at this time. The avenues by which this secondary infection is carried into the various parts of the lung are occluded, thus favoring the chances of healing of the tuberculous lesion. Subsequent to the compression of tuberculous lungs, the fever and expectoration diminish so markedly that we are forced to conclude that the rôle of the secondary infections has been reduced to a minimum. Furthermore, it is known that so long as tissues infected with tuberculosis are also exposed to the action of pathogenic micro-organisms the healing process can not be completed. Whatever there is in the direction of cicatrization is undone by the pyogenic organisms, when they are present in sufficient quantities. This is very well illustrated by the work of Prudden, who demonstrated by experiments upon rabbits that the mixed infection is largely responsible for the exudative phenomena and the cavitation in lungs previously infected with tuberculosis. The tissue changes so essential to the process of healing of tuberculosis are very much interfered with by the mixed infection, and in the general hygienic treatment of tuberculosis of the lungs one of the first indications has been to get rid of the secondary element of the infection. As Cornet puts it, healing of a focus of tuberculosis in the lung is probably always altogether the result of tissue changes which diminish or inhibit the absorptions of proteins derived from the bodies of tubercle bacilli.

One of the most difficult propositions in connection with this work has been the selection of cases suitable for the injections. In connection with our earlier cases we made it a rule to inject only those in which the lesions were unilateral and in which but one lobe was involved. A great number of our cases, however, have been operated upon in spite of the presence of the disease on both sides and the two questions rather difficult to decide in these cases are first, will the remaining area of respiration after compression of one lung be sufficient to maintain life when the opposite lung is also more or less involved? and, second, will there be a disposition on the part of the functionating lung in the direction of rapid spreading of the disease already existing? Within the last year a considerable proportion of the cases operated upon have had bilateral lesions and in many of them there has been a marked general improvement in spite of the widespread distribution of the disease. It has been suggested that the increase of function called for in one lung when its fellow is compressed will tend to disseminate the infection; that the increase in the pulmonary excursions would favor an aspiration of infective material and that if compression and complete suspension of function in one lung will favor the healing of tuberculous lesions, a vicarious emphysema or hyper-function will have the opposite effect. This assumption is incorrect both in theory and in practice. It must be remembered that the lung is inclosed in a bony cage that makes it impossible for its excursions to be much increased beyond the normal. A number of the cases included in the first report show conclusively that there is no tendency to an increased activity of the disease in the functionating lung when its fellow is compressed. One of our cases (No. 49 of the first report) who developed a tuberculosis of the left upper lobe, some time after he had been injected for a tuberculosis of the right lung, has had eight injections on the left side without the slightest tendency in the way of a relighting of the disease in the right lung. At a recent examination both lungs were found entirely free from physical signs, except a pleural rub on the left side, and two months have elapsed since his last operation. In this case one lung or the other has been compressed at different times for a period of twenty months and at his last examination the patient was found nearly free from cough; his temperature and pulse normal and for the present at least he may be considered as having recovered from a bilateral tuberculosis that involved both upper lobes and the apex of the lower lobe on the right side. Forlanini, of Italy, in a personal communication to us about a year ago stated that he did not consider a bilateral distribution of the disease a contraindication to the compression treatment.

In several cases of very acute tuberculosis involving an entire lobe or the greater part of a lung, I have been called upon to compress the affected lung to stay the infection until the patient's general condition might improve sufficiently to admit of a change of climate and a continuation of treatment in the ordinary way. At the last meeting of the American Climatological Association, Dr. R. H. Babcock, of Chicago, for whom I have made a number of injections, stated that the compression seemed to him "to start the patients in the right direction."

On account of the frequency with which we meet pleural adhesions in the dead-house in bodies dead of tuberculosis of the lungs, it was believed that the majority of the cases that might apply for treatment would show pleural adhesions to such an extent as to make a compression impossible. In practice, however, we are forced to abandon the operation in only about 5 or 6 per cent. of the cases on account of pleural adhesions. It must be remembered that adhesions may be present here and there over the surface of a lung without interfering in any way with a thorough compression. Occasionally adhesions may be present anteriorly or laterally so that the needle must be introduced posteriorly and the lung compressed against the anterior thoracic wall. Mohr[12] studied the mode of displacement of the lungs in pleurisy with adhesion. In 23 cases in which there were no adhesions the lung was compressed in the usual manner against the vertebral column and mediastinum. Thirteen times it was compressed from below upward; 4 times from within outward; 4 times from behind forward; 4 times from before backward, and once from above downward. In some of our cases it has been necessary to puncture the thoracic wall at several points in order to find an area free from adhesions, and frequently we have in this way been able to bring about a considerable degree of compression in spite of circumscribed areas of adhesions.

It is impossible to determine by the usual methods of physical diagnosis whether or not adhesions exist. When a considerable pulmonary excursion can be demonstrated by percussion over the lower border of the lung, or when Litten's diaphragm phenomenon is present there is no doubt as to the absence of adhesions that will interfere with compression. There are many cases, however, in which these signs are absent, perhaps on account of the extensive infiltration of the lung, in which no adhesions are present and therefore it is impossible to determine whether or not the lung can be compressed until the needle has been introduced. On account of the danger of puncturing the lung and injecting the gas directly into the lung parenchyma, or perhaps into a vein, it is wise to determine whether or not the point of the needle is in the pleural cavity before attaching the tube. This can usually be very readily accomplished by instructing the patient to take a series of deep breaths as the needle is being introduced, when, if the point of the needle be within the free pleural cavity, a current of air can be heard to rush through the needle. In this way it is almost always possible to ascertain when the point of the needle is in the free pleural cavity. It is advisable to determine this point definitely, because of the slight danger from gas embolism in the event that the needle has been inserted into the lung and perhaps into a vein. With the exception of this point the technique of the procedure need not be repeated at this time. (See The Journal, Oct. 14, 21 and 28, 1899.)

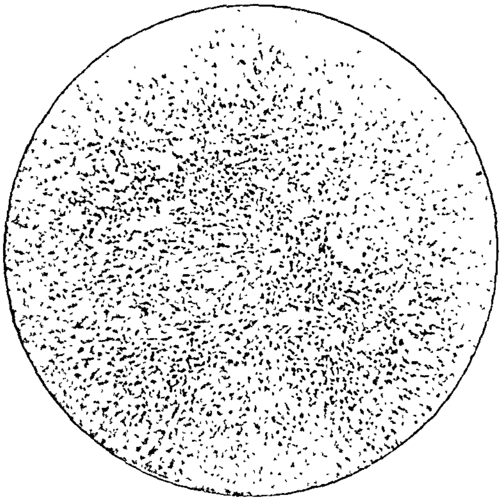
Fig. 5.—Section through acute tuberculous area in uncompressed lung.

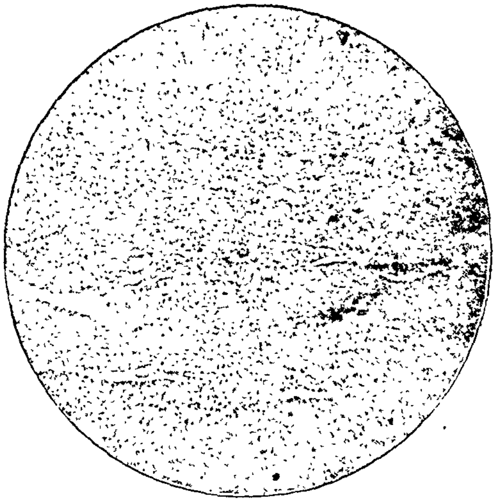
Fig. 6.—Section through old tubercle in compressed lung. Low power.

As regards the possible accidents of the operation I may state here that there have been no unpleasant symptoms in any of the cases operated upon since the one referred to in the first communication, and since the adoption of the intercostal compress no cases of subcutaneous emphysema have been observed to follow the operation.

The hemiplegia that is known to develop occasionally in connection with diseases of the lung or pleura, or during and after various operative procedures upon the thorax that involve the lung or pleura, can not always be explained readily, and is not always due to the same cause. It is possible that a small clot may be dislodged from a thrombosed vessel and carried to the brain, and may cause a temporary or permanent hemiplegia. In some cases undoubtedly the hemiplegia is to be explained on the assumption that a gas embolism has occurred. Some observers believe that the paralysis is due to a local metastatic encephalitis, and still others believe the pleural irritation in some obscure, reflex way is responsible for the transient or permanent paraylsis that ensues. The possibility of this accident should always be borne in mind, but its actual occurrence is too rare to be considered a serious objection to the operation. In a few cases patients have complained of numbness and tingling in the hand or the entire arm on the side of the operation, but this has always disappeared very promptly. The danger of hemorrhage from puncture of an intercostal vessel is scarcely to be given a serious thought, as no instance of it has occurred in the more than 600 thoracic punctures that we have made in connection with this work.

The danger of infecting the pleural cavity with the ordinary aseptic and antiseptic precautions taken is scarcely to be considered, as in all of the cases that have been injected there have been but two instances of pleurisy with serous effusion, and it is certainly unfair to conclude that these were due in any way to the injection of nitrogen.

During the past year we have been in the habit of making the injections somewhat more frequently than we did previously in order to keep the pleural cavity at all times well filled with gas and thus keep up a continuous compression of the lung for a period of several months, depending largely upon the patient's general condition and the physical signs detected in the lung when once the gas has been allowed to be absorbed.

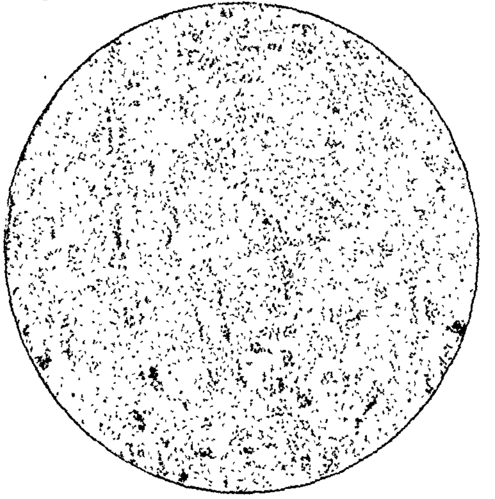

Fig. 7.—Section through acute tuberculous area in uncompressed lung. Low power.

The only objections that have been made to the procedure, so far as I am aware, are those of Samuel West,[13] who does not think that the rationale of the procedure is based on conclusive evidence. He believes that recent tubercle may be found in a collapsed lung, all evidence going to show that it developed after collapse, and that collapse of one lung is frequently followed by development of tubercle in the other lung.

In the Transactions of Clinical Society of London, Vol. xviii., West collected 24 cases of pneumothorax which recovered. The probable cause is specified in 18 cases. He states that 4 were certainly and 4 more probably due to phthisis; the others were due to emphysema, overexertion and injuries. West's own case was one of a young man who for some weeks had been an outpatient of the Royal Free Hospital and was thought to be phthisical. West says that "The cause of the pneumothorax we may assume to be phthisis, and the effusion of air appears to have acted in this case as the effusion of fluid often does, and for the time to have checked the progress of the disease."

The effect of compression upon the blood-supply of the lung has been the subject of considerable dispute and there seems to be some doubt as to whether a compressed lung is hyperemic or anemic. Some observers believe that the good effect of compression in pulmonary tuberculosis is due to the hyperemia and edema to which the lung tissue is subjected in its compressed state. Fütterer[14] reports a case in which the pneumothorax was due to rupture of the pleura pulmonalis of a tuberculous lung, and states that he "decided to wait some weeks to allow the patient to recover somewhat from the severe nervous shock he had experienced and to gain some strength as well as to permit the perforation to heal up, if the healing process could be established, and to put the supposed tubercular changes of the lung under the beneficial influence of edema and hyperemia, which are both present to a high degree in a collapsed lung, and which no doubt are powerful means of destroying the tubercle bacilli." In this connection it may not seem amiss if we refer again to the immunity from tuberculosis of individuals who suffer from valvular disease of the heart, giving rise to more or less passive congestion of the lung tissue. Eichhorst[15] says that a combination of pulmonary tuberculosis with valvular lesions of the heart is not so uncommon as was supposed. Statistics of Frommelt and Kidd show that from 7.2 to 8 per cent. of cases of valvular heart disease have tuberculosis of the lung. Potain found that 16.4 per cent. of cases of mitral stenosis are complicated with tuberculosis of the lung, and it is to be remembered that mitral stenosis, above all other valve lesions, gives rise to the greatest degree of pulmonary stasis, and therefore might be expected to give the greatest immunity to this disease. In Eichhorst's clinic 2 per cent. of the cases of tuberculosis of the lungs had valvular heart disease. On the other hand, there can be no doubt that in congenital stenosis of the pulmonary artery tuberculosis of the lungs is the rule. These statistics force us to the conclusion that in congenital pulmonary stenosis tuberculosis of the lung almost always supervenes sooner or later, but that mitral valve lesions do not by any means afford the degree of immunity to tuberculosis of the lungs that we formerly ascribed to them. That a lung thoroughly compressed must be comparatively anemic seems reasonable when we consider the mechanical change alone. The difference in weight between an atelectatic lung of a stillborn infant and that of an infant after a few respirations have been made would seem to be satisfactory proof of this. Schäfer and Symington[16] state, for example, that the lungs before birth weigh about one ounce and a half, but after com-

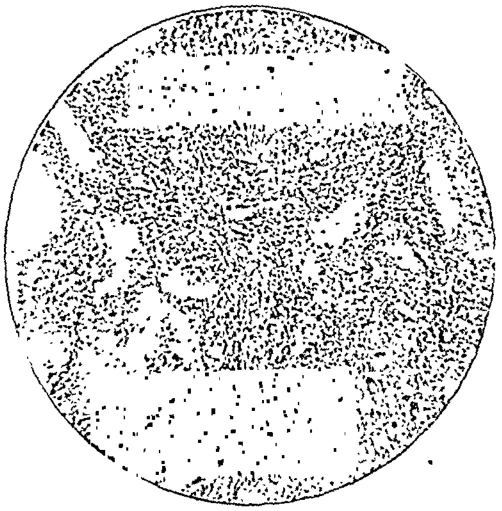

Fig. 8.—Acute tuberculous area in uncompressed lung. Low power.

plete expansion by respiration they weigh as much as two and one-half ounces.

During the past year we have made a series of experiments on dogs to determine the effect of compression upon healthy lung tissue, particularly the effect upon individual air cells. It has been urged that when compression of a lung has been maintained for a period of months, or perhaps a year, some of the air vesicles must be permanently damaged to the extent of partial or complete obliteration from prolonged contact of the opposing intra-alveolar surfaces. Clinically, from a consideration of cases of pleurisy with effusion and empyema in which the lung tissue is reduced to a compact mass and held in that position for a considerable period of time, we know that no great damage is done in the direction of alveolar obliteration. Even in empyema, in spite of pleural adhesions that are present wherever the lung is forced against the parietal pleura, expansion follows gradually and slowly as soon as the pressure is removed. In the majority of these cases the lung expands almost entirely, and would always expand completely but for the limiting adhesions. In the cases of pulmonary tuberculosis that have been treated by compression there has never been any doubt as to the re-expansion of the lung after the gas has been allowed to *become absorbed, even when the compression has been* maintained as long as six to eight months.

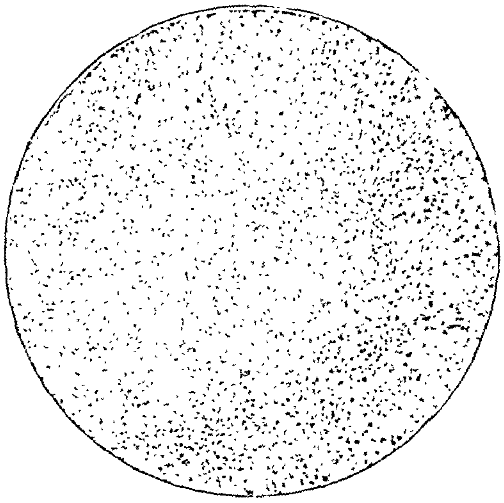
Fig. 9.—Acute tuberculous area in uncompressed lung. Low power. Marked necrosis.

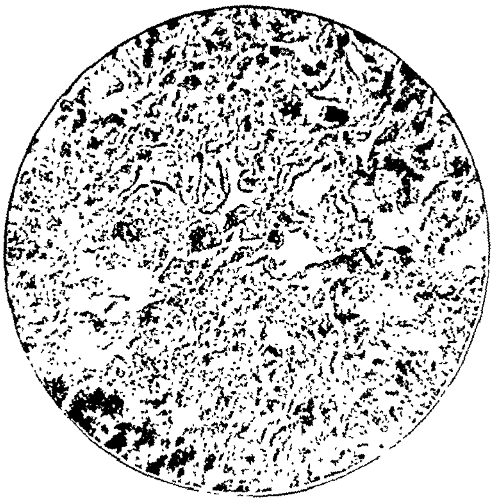
Fig. 10.—Area of compressed lung. High power. No tubercles. Air vesicles completely compressed.

To enable us to study the histologic changes in healthy lung tissue subjected to compression and to determine the effect upon the pleural surfaces, eight dogs were selected, the thoracic wall was prepared aseptically and nitrogen gas injected at intervals of from one to two weeks for a period of eight months. In four dogs normal-salt solution was substituted for the nitrogen. The gas was injected until the dogs became thoroughly dyspneic and until the respiratory sounds were altogether obliterated. I shall not repeat the records of these experiments in detail at this time, but limit myself to those findings that deal directly with the matter under discussion. No difficulty whatever was experienced in making the injections except that the mediastinum was ruptured in the second dog operated upon. This is an accident likely to occur in the dog, on account of the very thin mediastinal membrane. In the human subject the possibility of this accident need not be considered, as the membranes are very much thicker. The normal-salt solution was absorbed with greater rapidity, and, on account of its greater weight, it could not be injected in quantities sufficient to compress the lung so thoroughly as was the case with the nitrogen injections. Eight months from the time of the first injections the dogs were killed, the trachea clamped and both pleural cavities freely opened. The pleural surfaces were smooth and shining everywhere and, in fact, altogether free from changes, with the exception of a slight thickening of the pleura pulmonalis over a limited area in the sulcus interlobaris. The left lung was almost completely compressed, although it still crepitated slightly and floated in water. (Fig. 1.) In four instances the lungs were separated, a canula was tied into the left bronchus and inflation attempted. Over some of the dark, thoroughly atelectatic areas some little force was necessary, but at no point was it impossible to inflate the air cells thoroughly. The bronchi were then tied, the lung immersed in 5 per cent. formalin solution in water for twenty-four hours and then cut into small pieces for imbedding. Aside from slight epithelial desquamation, which was also found in the opposite non-compressed lung, no changes of any kind could be detected in the tissues. From the other four lungs pieces were prepared in their compressed state, and here also no changes could be detected.

These experiments merely proved, first, that nitrogen gas or normal-salt solution could be injected into the pleural cavity frequently and at short intervals without giving rise to infection or in any way causing untoward effects, and second, that healthy lung tissue may be kept in a state of thorough compression for a period of at least eight months without causing obliteration of air cells or in any way interfering with the re-expansion of the lung as soon as the cause of compression is removed.

At the last meeting of the Association I exhibited a specimen of tuberculous lung from a case of long-standing pleurisy with effusion which finally became purulent. The patient, Mr. M. A., aged 46, died as the result of his pulmonary tuberculosis soon after an operation for [illegible] He was admitted to Alexian Brothers' [illegible] on Jan. 19, 1900. Eight years before, he had developed a pleurisy with effusion on the left side, which was aspirated several times, but in each instance recurred. His attack of pleurisy had been preceded by severe cough with expectoration, the result of a tuberculosis of the left lung. In spite of the fact that the effusion persisted, he remained in good health for a number of years, and in fact was feeling well until three weeks before his admission to the hospital, when he developed a severe cough with profuse expectoration, great shortness of breath and extreme weakness. It is noted on the history that he expectorated much mucus and very little purulent material. The physical examination showed the signs of the presence of fluid on the left side, an aspirating needle was introduced and the purulent nature of the fluid demonstrated. On account of the extreme shortness of breath it was decided to operate in spite of the fact that the physical signs on the right side denoted a diffuse acute tuberculous infection of that lung. The patient died twenty-four hours after the operation. At the post-mortem the left lung was found reduced to about the size of the fist and thoroughly bound down by adhesions; the right lung was literally studded with fresh, grayish tubercles, varying in size from a millet seed to that of a pea, with an old thick-walled cavity in the apex. (Fig. 2.)

It is interesting to note in this case that the few scattered tubercles in the left (compressed) lung are made up of thick scars enclosing calcareous material, all evidence going to show that they are old, and in all probability antedated the pleurisy with effusion that brought about the compression. In the opposite lung there is an acute diffuse miliary tuberculosis. This further bears out the view that tubercles can not develop in a thoroughly compressed lung, because of the fact that the avenues by which the infection is disseminated are occluded.

CONCLUSIONS.

1. Tuberculous lungs after compression show much fibrosis in and about the foci of disease; hence, extension from these foci is less likely to occur.

2. Tuberculous lesions probably never heal by resolution, always by cicatrization—this is particularly true of lung tuberculosis. Hence, in attacking them it is rational to further the natural tendency to cicatrization.

3. The danger of pulmonary tuberculosis does not lie in the presence of one or more foci of the disease, but in a dissemination of the infection throughout the lungs or the body generally.

4. Healing is probably, as Cornet puts it, altogether the result of tissue changes which inhibit or diminish the absorption of proteins derived from the bodies of tubercle bacilli.

5. Areas of healed tuberculosis may consist of: Scars, perhaps enclosing caseous or calcareous material, or of cavities lined with a thick wall. Kurlow and Green (Cornet) have demonstrated that in areas of healed tuberculosis made up entirely of scar tissue or of scar tissue enclosing calcareous material no virulent bacilli exist.

6. Tuberculosis in the lungs spreads either by continuity and contiguity or by dissemination of the virus through, 1, the air-channels; 2, lymph-vessels; 3, blood-vessels.

7. Good effects of compression, locally, are brought about by the limitation of areas of disease already existing, by favoring fibrosis in and about these areas; by occluding the avenues of dissemination of the virus, and by compressing cavities to enable them, mechanically, to heal.

8. Other effects of compression are due to rest to the organ as a whole, emptying of secretions, prevention or diminution of absorption of toxic bodies, prevention of secondary infections, the diminished tendency to hemorrhage.

9. There is no evidence that fresh tubercles can develop in a compressed lung.

10. Pleural adhesions are less common than might be supposed from a study of material in the dead-house. The lung may retract in various directions on account of circumscribed areas of adhesion.

11. Healthy lung tissue may be compressed for a year or longer and retain its capacity for expansion upon removal of pressure.

12. The actual risk of the operation of intrapleural injections of nitrogen is very slight. No accidents have occurred since the first report was made.

13. Subcutaneous emphysema may easily be avoided by using the intercostal compress.

14. Uses of intrapleural injections of nitrogen: 1, curative in pulmonary tuberculosis for reasons mentioned above; 2, palliative—to prolong life for weeks or months, though the disease be too extensive to make recovery probable; to diminish fever and expectoration; 3, to check pulmonary hemorrhage; 4, to compress cavities, tuberculous and others, and establish mechanical conditions that will permit their healing; 5, to compress the lung just prior to surgical operations in which the pleural cavity is to be freely opened and to determine presence or absence of pleural adhesions before opening pleural cavity to drain abscesses or bronchiectatic cavities, cysts, etc.

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DISCUSSION ON PAPERS OF DRS. FREUDENTHAL, ANDERS, EDSON, AMBLER, MAYS AND LEMKE.*

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.—I listened to the papers read with interest and with profit. The diagnosis of the prebacillary stage of tuberculosis is important, because that is the time when it should be diagnosed if we wish to accomplish anything in the way of treatment. I am much interested in the remarks made in reference to temperature as a means of diagnosing tuberculosis. I believe that the temperature curve in tuberculosis is much more typical than it is in typhoid fever, although there may be various conditions which affect the temperature curve, such as exercise, which influences it very much. I almost invariably have the patients take it at 8 a.m., at 12 m., and at 4 and 8 p.m. When the temperatures are taken at these hours the highest temperature will be found almost invariably at 4 p.m.

As to the possibility of complete recovery from tuberculosis, it is no doubt a question of *restitutio ad integrum*. In cases of peritoneal tuberculosis, where a laparotomy had been performed for that condition, and where, years afterward, another laparotomy was done for a hernia or something else, it has been found that the tubercular lesions had disappeared. Two years ago I took a large number of rabbits and inoculated them with virulent cultures of the tubercle bacilli; after a lapse of six weeks one-half that number had their abdominal cavities opened; in these cases we saw tubercular nodules, some of which were cut out and subjected to a microscopical examination, showing conclusively the presence of the tubercle bacilli, not only in the instances where there were tubercular lesions in the omentum and peritoneum, but also over the liver, which was dotted with tubercles. All these that were operated on lived, while the control animals all, or nearly all, died. Of course, statistics show us, as well as the observations, that tuberculosis is most easily curable. Rest, I am sure, is a great factor in the treatment of tuberculosis, and this is the reason why great benefit is obtained from sanatoria treatment. The question as to the amount of exercise and to what extent the patient should rest must be decided by each individual case. Where there is much temperature there must be complete rest. When the patient is not in a febrile condition, or the temperature is not above 100.5 or 101, considerable out-door exercise may be indulged in. Out-door life in the Western part of the United States or in Colorado is a good thing, but we do not utilize it enough in the treatment of tuberculosis—as we should. I recall a severe case of tuberculosis occurring in a patient who lived several miles from my office; this patient came every day to my office for treatment, rain or shine, cold or warm; the cough disappeared, the bacilli disappeared and the patient was apparently well. Out-door exercise is not as much utilized as it should be.

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* Dr. Anders' paper was published last week; those of Drs. Freudenthal, Edson and Ambler were published elsewhere.

Dr. Mays' paper is certainly an interesting one. I had occasion some time ago to write an article on argyria, and I was surprised in looking up cases to find so many had developed tuberculosis when they were saturated with nitrate of silver. It does not seem to me that it is curative under these conditions.

Dr. DeLancey Rochester, Buffalo—Regarding the paper of Dr. Freudenthal, showing the effect of occupation, he mentions tailors particularly. It struck me that one of the chief dangers in tailors suffering from tuberculosis was from the dissemination of the disease. It is their habit to bite and wet the thread and then to go on sewing; in this way they can get the tubercle bacilli distributed widely. The tailor-shop is a marked factor in the spread of tuberculosis. I am also glad he spoke of the common occurrence of the disease of the upper air-passages associated with tuberculosis. In almost all cases of tuberculosis we find more or less disease of the nose and, particularly of the nasopharynx, and sometimes of the tonsils. The nasopharynx is particularly a nidus for the microorganisms. I have many cases in which a careful examination showed a secretion flowing in large amounts, quite persistent, and the washing away of the secretions resulted in disclosing other symptoms of pulmonary tuberculosis.

Dr. Anders referred to the prebacillary stage of tuberculosis; in this stage the temperature should be carefully watched. There is another point to which I wish to refer, the temperature as it occurs in the healthy. Observations show that there is a normal temperature curve, the lowest point being reached between the hours of 12 and 6 a.m., and the highest between 12 and 6 p.m. But these observations are not numerous enough to make statements absolutely reliable.

Dr. Edson has brought out the very great importance of rest. The index in regard to the question of rest is to be found in the pulse, the temperature, as well as the physical signs. To place a person at active exercise when he has a marked elevation of temperature, and other evidences of an active inflammatory process, or evidences of softening or a bronchitis, with danger of breathing scattered tubercle bacilli into the lungs and exciting the pneumonia, tubercular in origin, would be a great mistake. Rest is of great importance in the presence of numerous râles.

In regard to the case of Dr. Ambler, that of serum-therapy, it is not such a remarkable one when we consider that these cases are treated in a sanatorium, in a climate where cases recover without any other treatment at all, and where they naturally get well. So, I hardly think one can lay the good results obtained to any serum, particularly when we believe they will get well without it. The sanatoria treatment of tuberculosis is the best treatment these patients can get. At Saranac Lake these patients get nothing in the way of medicine except cod-liver oil, and nearly all cases get well. Rest and out-door exercise is the treatment.

Dr. Lemke's report is interesting as bearing on rest. His statement shows remarkable improvement in cases where there was a chronic pneumothorax. This year I had two cases under observation. In one the pneumothorax had persisted for several months. This case, after the development of the pneumothorax, progressed badly, became decidedly worse, the patient lost flesh rapidly, etc. In the other case, operated on without benefit, except some relief from the dyspnea, there was no pus present until after the operation. Neither of these cases improved by the spontaneous recurrence of pneumothorax, which persisted for several months. In one case at the General Hospital, the local lesion was a very slight one indeed.

Dr. Vaughan referred to cases that were saturated with nitrate of silver. I think he has mistaken Dr. Mays' meaning entirely. In Dr. Mays' treatment the silver nitrate is injected to prevent irritation of the vagus, and so affect the innervation of the lung, that was the point. The case was certainly interesting and instructive. He stated, however, that the cases were practically well. I wish he would tell me what he means by practically well. We know perfectly well that a large number of cases of tuberculosis improve under any treatment instituted. We should remember to treat the patient and not the tuberculosis simply; each individual case requires special study; some cases require one thing and some cases another. There was one case in Buffalo where there was an excavation at the apex, with infiltration at the other apex and at the base, and that case recovered without any specific treatment beyond out-door life and guaiacol in moderate doses.

Dr. S. Solis-Cohen, Philadelphia—My views on the causation of tuberculosis have been quoted. I have slightly modified them since that article was written. My present position is this: First, there is a fundamental trophic failure, congenital or acquired through privation, depression or excess. Then the invasion of Koch's bacillus—in rare instances another microbe, perhaps warranting a separate category for such cases—accompanied by definite histological changes and toxemia comparatively mild; then, with the invasion of pus organisms and similar microbes, a breaking down of tissue and a severe toxemia, with the phenomena properly called phthisis. As the trophic failure is fundamental in pathology it gives the clue to fundamental treatment. The patient's nutrition must be improved to the highest possible point. Rest may be necessary in some cases, and usually is when there is tendency to persistent elevation of temperature to or beyond 100 F.; but even rest should be in the open air when possible. Out-door exercise in proper cases is of the greatest value. In this connection I may recall attention to a case of recovery which I reported at the meeting of The American Medical Association at Newport, to illustrate the benefit of compressed air; that patient has remained well these thirteen years since that meeting, and keeps her health, I believe, by being out doors in all weathers. But I don't wish to go over the whole subject; I desire merely to speak of a few points omitted by others. One of these, and very important, is the early recognition of the tuberculous origin of indefinite attacks in young people and children. In many cases healed tuberculous lesions being found at autopsy, it is stated that there were no symptoms during life. It is possible that inquiry might elicit the fact that the patient, when a child, had had recurrent attacks with pronounced or vague chills, a sudden development of fever, and perhaps pectoral signs which were thought to be the symptoms of bronchitis or influenza or malaria or something else. I have seen many such patients, who will go free for months or years, when there will be a repetition of the same phenomena. They are not cases of influenza or malaria or typhoid fever, and while bronchitis or perhaps catarrhal pneumonia is manifest by physical signs, this is but a part of the morbid complexus. I am inclined to believe that these are cases of tuberculosis chiefly localized in the bronchial glands, and my experience indicates that some patients recover entirely and some later develop pulmonary tuberculosis. Regarding the diagnostic value of temperature, I lay particular stress on the rise which occurs between noon and 2 p.m. Often a temperature course, seemingly normal at all other periods, shows a distinct elevation during these hours. As a matter of convenience I select 1 p.m. for the first test. There is one exception; namely, patients who present an inverse temperature, i. e., higher in the morning than in the evening. The temperature of patients with tuberculosis is mostly affected by external surroundings. The heat of summer will sometimes send the temperature of such a one up one, two or three degrees.

In estimating the value of new methods of treatment reporting many recoveries, the element of time must be taken into consideration. Reports of recovery in six weeks may be thrown into the waste-basket; reports of patients remaining well six months need little attention; reports after one year or two years do not mean very much. I do not know just when to report cases of tuberculosis as well. I used to say four or five years was a sufficient time, but one patient reported well at four years died four years later of pulmonary tuberculosis. I have one patient now who has been well for seventeen years—my first case—treated by compressed air, iodoform, iron, raw-meat diet, etc. This I may report now to illustrate one line of treatment which has been successful in a certain proportion of cases.

Finally, I would ask members to read old books as well as new journals. Rush, in his classic on the treatment of consumption, calls attention to the value of rest and the value of regulated exercise in a way that impressed me greatly. He says: "I desire to call attention to the care with which exercise should be applied in cases of consumption in order that I may in some measure atone for the evil done by neglect of these precautions in my early practice."

Beginning with the slightest exercise, conformable to the ability of the patients and the stage of the disease, he advises that it should be gradually increased until they could be kept out of doors on horse-back. The stages were slow carriage-riding, faster carriage-riding, walking, running, horseback. Sydenham, before this, had called attention to horseback exercise as one of the best means of treating phthisis; while Beddoes, more than a hundred years ago, gave the hygienic regimen which is now so enthusiastically exploited by those "who only heard it yesterday."

Dr. S. A. Knopf, New York—I did not come here to speak, but simply to listen and learn. However, I gladly avail myself of the privilege to say a few words on the invitation of your honored Chairman. In listening to the many interesting papers on tuberculosis I have indeed learned much. The most important thing which the papers and discussions show is the advance we have made in phthisiotherapy, so that we no longer treat consumption, but the consumptive, and we no longer believe in a specific climate for pulmonary invalids. My time is too limited to discuss all the interesting points in the various papers presented here this afternoon.

To Dr. Freudenthal's experience with the sweatshop tailors as a class much exposed to consumption, let me add that I have observed two other classes of laborers also very frequently attacked by this disease, namely, assorters of dirty linen in laundries and Italian rag-sorters. I have not seen any statistics to confirm my observations, but it would be interesting to know the real extent of the disease among these classes of laborers. That I may not be misunderstood, I wish to say that I refer to the rag sorters who live and work often in the damp, dark, crowded basements of tenements, and not to the rag-pickers, who work all day outdoors and are much less exposed to tuberculosis.

Concerning exercise and rest-cure, I would say that both are valuable in the treatment of the disease in question, but that neither should be carried to excess. To have a patient lie for from five to ten hours on his back on a reclining-chair, with almost no interruption, as is sometimes practiced in German sanatoria, even if out-of-doors, I consider dangerous to the patient, for it may produce a pulmonary hypostatic congestion. The rest-cure is most valuable when alternated with short walks and breathing exercises, providing the patient has little or no fever. A temperature of 100 F. and over is an indication for quiet, and the less active exercise the patient gets the better. When the fever has become chronic gentle massage is well indicated, thus counteracting the disadvantages of a too-prolonged rest.

Dr. Mays' paper was certainly very interesting, but I fear we can not get the full value of his statistics as long as he does not tell us which of his patients had and which did not have the hygienic and dietetic treatment in addition to the nitrate of silver injections. We must admit that some patients' coughs improve and some get entirely well without any medicinal treatment. It may be interesting to recall in connection with this that Landouzy, of Paris, injects sterilized water into the supraclavicular region as cough remedy, and reports good success. My own favorite remedy for cough without expectoration is discipline. I tell the patient, in the language of my venerable teacher, Professor Dettweiler, that to cough in public simply because the throat tickles is impolite, like scratching the head in the presence of others when it itches; also that useless coughing only irritates the throat. At times I employ dry cupping to relieve cough and pleuritic pains. Of course, there are cases where the cough becomes distressing and where expectorants are necessary.

Before closing, may I come back to the cause of consumption among the toilers? Whatever we may do in the line of therapy or prevention by the sanatorium treatment, of which I am glad to say such favorable mention has been made by Dr. Rochester, let me tell you that as long as the law will permit tenements to exist, or to be constructed, which, owing to the lack of air and light and want of cleanliness constitute veritable hotbeds of tuberculosis, so long will sanatoria and special hospitals serve only as recipients of the supply of tuberculous patients daily created anew.

Before you leave this meeting let me beseech you to do your duty as physicians and citizens. You have a right to demand from your municipal government that the poor shall be better housed and shall no longer constitute a danger to their fellowmen. You have a right to demand that the hopeless, poor consumptive shall be isolated in a special hospital and the curable treated in a sanatorium near by. There is hardly a region in the United States where the climate would not permit a consumptive to be cured by the hygienic and dietetic treatment under careful medical supervision. It is no longer necessary to send our patients thousands of miles away. In our combat against this bitter foe of mankind we must not forget that consumption must be treated as much in its social as in its medical aspect.

Dr. R. C. Newton, Montclair, N. J.—I wish to relate a case which has proved interesting to me, and I think supplements some of the remarks just made. About two months ago a young lady, of 19 or 20 years, was referred to me with the following history: She had suffered from loss of vigor and from depression of spirits for some months; during this period her menses had been entirely absent. She had lost flesh and had shown an afternoon temperature of 101 to 102 F. The temperature had been taken at variable intervals. But I have no doubt that she had experienced a daily rise during at least a considerable portion of the time mentioned. She had not suffered markedly from anorexia or constipation. Her elder sister hinted vaguely at some love affair, which might have affected her health.

When I first saw her she was pallid, had some acne and complained of being listless and tired. Her family history was strongly tuberculous, so far as her grandparents, uncles and aunts were concerned. The history of her immediate family is very good. She complained of more or less dry cough every morning, but no expectoration. A careful swabbing of her throat produced a little mucus, which was examined in vain for tubercle bacilli. The blood was examined microscopically and showed some leucocytosis, the polymorphonuclear leucocytes being well marked. The red cells were comparatively healthy, showing only a few endoglobular changes. There were no malarial plasmodia. A careful auscultation and percussion of the chest seemed to reveal slight congestion at the right apex; so a tentative diagnosis of incipient phthisis pulmonalis was made. I referred the patient to Dr. James, of New York City, for further examination and for advice as to whether she should be sent to the Adirondack Sanatorium or not. Dr. James was disposed to regard the case as purely one of anemia and recommended large doses of tartrate of iron and potash, the patient to be carefully watched and her progress noted.

How this case may turn out is, of course, too early to assert. But there seems to be little doubt that a moderate diurnal fever may arise in chlorotic young girls from nutritional or metabolic irregularities and may subside without sequelæ, and very probably without treatment.

Dr. C. P. Ambler, Asheville, N. C.—Dr. Rochester is laboring under the impression that I am connected with a sanatorium in Asheville, and have read this paper as a report from such institution. Allow me to state that I have no connection with the sanatorium, and that these patients reported were not treated in a sanatorium. He probably has this impression from the fact that I was formerly connected with an institution in Asheville, but my connection with that institution was severed four years ago. Dr. Rochester has also stated that I make it appear that patients do not recover under creosote treatment. I did not say that. I stated that "where patients recovered under serotherapy they were not so liable to relapse as those treated by creosote and other allied drugs."

Dr. Knopf, in discussing my paper, has implied that I claim the results obtained were due entirely to medication. I distinctly stated that medication occupied third place. First, comes the hygienic supervision of the patient; second, good climate; third, medication. If all three of these methods can not be applied in a case, then the best thing the patient can do is to drop his doctor first, climate next, but under every circumstance hygienic supervision of the patient is absolutely necessary.

I am not here posing as a serum champion. I presented this report simply as a supplement to the report of the 106 cases presented last year, at which time my paper on sero-medication was read. I have shown that now, after the lapse of two years, 31 of the 106 cases were all back at their former employment.

Dr. Thomas J. Mays, Philadelphia—I think it is of great importance that we look on a new therapeutic question with leniency, for under the most favorable circumstances it is difficult to establish the correctness of any theory, and nowhere does this obtain more firmly than in the field of therapeutics, where the factors on which the theory is founded are so inconstant and variable. Some of the objections raised by Dr. Vaughan are that nitrate of silver may produce argyria, and be provocative of phthisis. I do not believe, however, that the small doses of 1/10 or 1/8 grain given once a week have the least perceptible general effect on the patient, and if my recollection serves me right, it appears that much larger doses of this drug are required to be given continually and for a long time before the symptoms of argyria are produced. Nitrate of silver is frequently given in daily grain doses for months in intestinal diseases without deleterious effect. That nitrate of silver may predispose to phthisis I believe, but the same may be said of lead, mercury, arsenic and other drugs. This is only true, however, when administered in large and toxic doses, and for long periods, as happens in the arts and manufactures. Indeed, I believe that anything which disintegrates, or diminishes the integrity of, the nervous system, as the above-named agents do in maximum doses, will predispose to pulmonary consumption. In small doses they stimulate, while in large doses they intoxicate.

Dr. Rochester asks me to define the meaning of patients getting practically well. This is a hard question to answer. Precisely, I believe that no tuberculous or phthisical patient will be entirely free and secure from the development of the disease if he lives a thousand years. The same may be said of many of us who carry inherited burden of this disease in our bodies and who, under prolonged physical or mental oppression, show a proclivity to the disease by the symptoms of a light cough, loss of flesh, impairment of appetite, etc. Therefore, I believe that a person who has been subject to this disease and recovers is never free absolutely from a subsequent outbreak, although he may be said to be practically well, especially if he is capable of performing work for six months, a year, or longer, provided he maintains his appetite, flesh, etc. The same is, however, also true of perhaps all chronic diseases.

Dr. Cohen referred to healed lesions of early tuberculosis usually occurring in children. I think it is true in many instances that children show a proclivity toward cure. I think they make quicker recovery than adults. I think in the "Medical and Surgical History of the War of the Rebellion" many cases of healed cavities and cicatrized phthisical lesions were noted in the lungs of soldiers who had died of other causes than phthisis.

Dr. A. F. Lemke, Chicago—I have but a few words to say in closing. In reference to the remarks of Dr. Rochester, I would say that I think every one is aware of the fact that a great majority of cases which develop pneumothorax in connection with tuberculosis result fatally; I believe that I am perfectly safe in saying that 90 per cent. or more of these cases of pneumothorax result fatally. There are two reasons: 1. On account of the valve-like formation at the point of rupture, so much air is forced into the pleural cavity that the patient dies of shock. 2. A more or less virulent infection of the pleura. Dr. Rochester states that in his case there was no pus, but this does not indicate that there was no infection.

It seems to me that the only practical way of getting at the question of the treatment of tuberculosis—not including prophylaxis—and the only rational way, is to consider how tuberculosis heals in a natural way. The great majority of lesions of tuberculosis, particularly those occurring in the lungs, heal by the process of cicatrization. In my synopsis, with which you are supplied, I have made a note regarding the statistics referring to the curability of tuberculosis. Every one is aware that Harris, of England, reported that 38 per cent. of individuals who died of causes other than tuberculosis showed healed tuberculous lesions in the lungs.

Fibrosis is the all-important factor in the healing of tuberculosis of the lungs. That compression will favor fibrosis can no longer be disputed. Furthermore, the danger from tuberculosis lies in the dissemination of the disease throughout the lungs. There are certain well-organized avenues by which this dissemination takes place, and these avenues are the air-channels, the lymph-vessels, and the blood-vessels. When compression takes place it occludes the avenues of dissemination of the virus and limits the disease to the parts originally infected. In that way the process of fibrosis circumscribes and permeates the original focus, which is transformed into a scar, and these scars are simply masses of fibrous tissue, or scars enclosing calcareous or caseous material. Our work, which has been carried on extensively for two years, has convinced me that pulmonary compression has an important place in the treatment of tuberculosis and that is based on unimpeachable clinical and pathological evidence.

ANGINA EPIGLOTTIDEA ANTERIOR.

REPORT OF THREE CASES.*

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The name "angina epiglottidea anterior" was given to this interesting condition by Michel, in 1878. It is an inflammatory process involving the anterior surface of the epiglottis, as a rule confined to it, and accompanied by more or less edema, which is the characteristic feature of this affection. The larynx itself may be affected to a certain extent.

True angina epiglottidea anterior occurs quite often as a primary affection, and is a separate and distinct condition. This statement will, I think, be proved by

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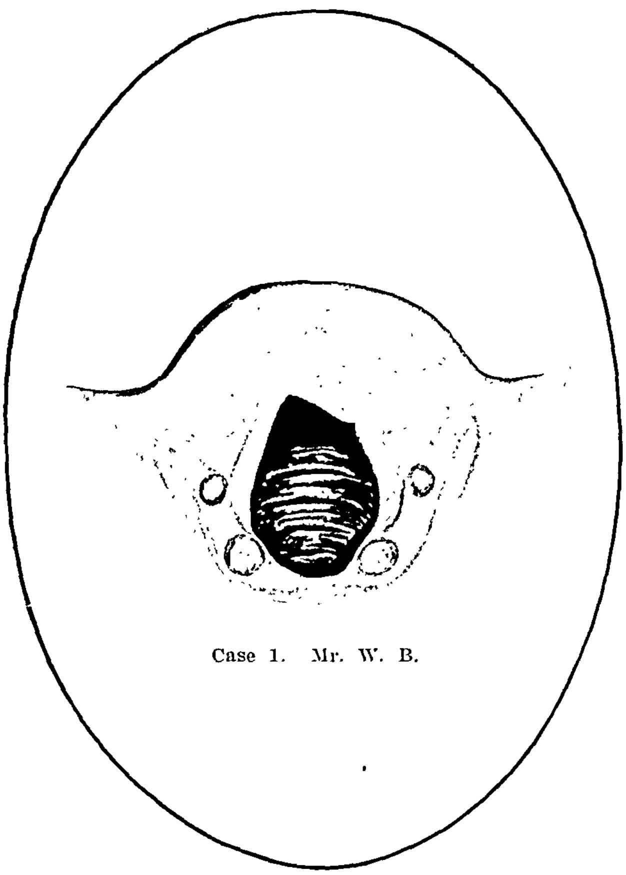
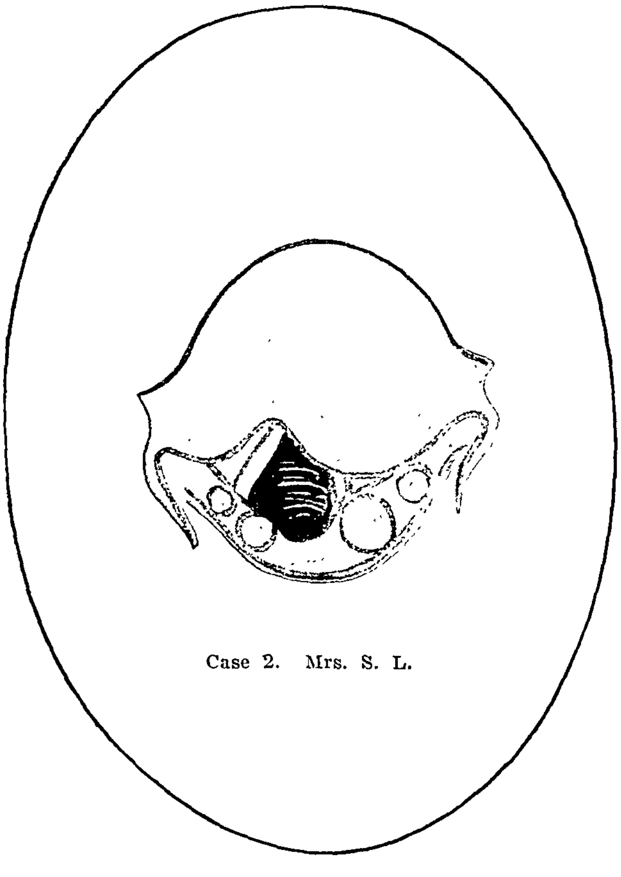
* Presented to the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.



Case 1. Mr. W. B.



Case 2. Mrs. S. L.

the report of the following cases. An inflammation of the anterior surface of the epiglottis, of course, sometimes follows an acute inflammation of the tonsils, acute pharyngitis and affections of the lingual tonsil. But in these cases the epiglottitis is merely a part of a general acute inflammation of the fauces, and must be distinguished from the primary or idiopathic epiglottitis. It must also be distinguished from a series of cases described by Arnold—30—in Burnett's "System of Diseases of the Nose, Throat and Ear," to which the term "acute miasmatic epiglottitis" was given. This will be fully considered after the report of cases.

Case 1.—Mr. W. B., aged 36. Was called to see him on the second day of his illness. He had been perfectly well before present attack, and in fact had always enjoyed the best possible health. His physician had carefully examined his pharynx, but could find nothing to explain the symptoms. When seen by the writer, the patient was sitting in a chair, with an anxious countenance, and presented the appearance of being quite ill. He complained of a very severe sharp sticking pain about the base of the tongue when he attempted to swallow. Attempts to swallow even a few drops of water brought on severe attacks of choking and coughing; there was pain on attempting to move the tongue; severe headache, restlessness, no appetite; voice was clear and there was no particular difficulty in breathing. The nose, nasopharynx and pharynx presented a normal appearance. The pharyngeal mucous membrane was not reddened. When the larynx was examined, however, the cause of the trouble was at once apparent. The anterior surface of the epiglottis was intensely inflamed, of a uniform bright-red color, and edematous. (See illustration, Case 1.) The larynx itself was not involved. Temperature 101 F., pulse 110. The patient was given an iced ichthyol spray, .5 per cent. solution, which was used every 20 minutes, and an ice pack was applied around the neck. Cracked ice was also frequently dissolved on the tongue. The next day his condition had considerably improved, although there was still pain and difficulty in swallowing. The inflammation of the anterior surface of epiglottis had subsided considerably and he felt better generally. The iced ichthyol spray was continued at half-hour intervals during the day, and was used at longer intervals as the acute inflammation subsided. On the fifth day he was practically well, although the redness and swelling of the epiglottis did not entirely disappear for several days more. A culture was not taken from the epiglottis in this case. He had not inhaled any irritating vapors, nor had he been exposed to cold.

Case 2.—Mrs. S. L., aged 40. Attack came on very suddenly, patient being in the best general health. She had not been exposed in any way and had not had a cold. Did not have a sore throat or even coryza before attack came on. First saw the patient morning of Jan. 4, 1900. Night before had been very restless and feverish, with headache, and great pain and choking when she attempted to swallow. She had also experienced much difficulty in breathing when lying down, and had to sit up in bed. On examination, nose and nasopharynx were normal and there was no evidence of any pharyngeal trouble. Mucous membrane of posterior wall, tonsils and faucial pillars was not reddened. Anterior surface of epiglottis was much reddened and so edematous that the laryngeal entrance was partly closed. Vocal cords were very slightly reddened and there was some swelling of the left aryepiglottic fold. (See illustration, Case 2.) Temperature 102 F., pulse 120. Calomel was given, and an iced ichthyol spray, .5 per cent. solution was used every 20 minutes, with an ice pack around the neck. Patient was also told to dissolve ice on the tongue frequently. Later in the day, as breathing was not much easier, I scarified freely, which gave her some relief. Next day patient was somewhat better and had not suffered as much during the night. Temperature 101.5. Epiglottis much less edematous and not as red. The laryngeal surface of the epiglottis was not swollen. The iced ichthyol spray was continued—every half-hour during the day—and, as in Case 1, at longer intervals for several succeeding days. She had been able to take absolutely no nourishment the first two days, but on the third could take some milk, as the difficulty in swallowing was much less. Epiglottis still very red, but edema both of that and left aryepiglottic fold had practically subsided. Temperature 101 F. third day. Her condition improved from day to day and in a week she was feeling almost as fell as ever, although the epiglottis did not get back to the normal condition for several days more. Immediately after scarification, cultures were taken from the epiglottis and examined by Dr. A. W. Elting, of the Bender Laboratory. The cultures showed a mixed infection of the staphylococcus albus and the pneumococcus. In the one culture the pneumococcus predominated. Examinations of the urine and heart were negative in this case. Patient had had no infectious diseases of any kind previous to her attack, nor had she ever had malaria. Injuries to the throat and the inhalation of irritating vapors could also be excluded as possible etiologic factors.

Case 3.—I am indebted for the following preliminary history of this case to Dr. MacFarlane, of Albany, by whom I was called in to examine the patient's throat. "Mr. D. F., aged 59, widower. Iron-worker; born in England. Has always been perfectly well except for injuries received in his work. About three weeks before present attack, had a general cold with muscular pains and headache. On May 11, 1900, he seemed perfectly well except for some slight pain in the back of the head. This became worse, and late in the night seemed to be more in the throat—left side. Tongue appeared to patient to be swollen and hard, and could be only slightly protruded. The jaws could not be fully separated and there was a marked sensation of choking, although at this time patient was able to swallow. Absolutely nothing abnormal was seen by ordinary pharyngeal examination. May 12. Throat more sore. Speech natural and voice clear. Tongue could not be well protruded. Temperature 102, pulse 96."

On May 13, the author was sent for. Patient's condition quite serious. Had been unable to sleep the night before and complained of severe pain around base of tongue. He could swallow absolutely nothing, as even the attempt to swallow a few drops of water brought on the most violent paroxsyms of choking and coughing. Temperature, 102. On inspection of the throat, the nasopharynx and pharynx were found to be absolutely normal. There was not the slightest evidence of inflammation. When laryngoscope was used, however, the epiglottis was seen to be enormously swollen and of a uniform redness. The left aryepiglottic fold was somewhat edematous with also some swelling of the right. An iced ichthyol spray .5 per cent solution, was used every 20 minutes, and an ice pack round the neck. Calomel and salines had also been administered.

May 14. Patient not much better. Pain in throat somewhat better but could still not swallow anything. Epiglottis was scarified, some of the serous effusion from the deeper tissues obtained, and four cultures taken.

May 15. Patient had had much better night and could begin to take a little cold milk. Edema of epiglottis much less. Temperature 101. The iced spray was continued at longer intervals. His condition improved from day to day and on May 18, a week after the onset of the attack, the epiglottis was not longer edematous, but still reddened and slightly thickened. The cervical lymphatic glands on both sides of the neck as well as the submaxillary glands had become swollen quite suddenly, and were tender to the touch. He made a good recovery, but had rather a slow convalescence. The cultures were examined by Dr. George Blumer, of the Bender Laboratory, and showed a mixed infection of the streptococcus aureus and pneumococcus. There were numerous colonies, and about an equal number of both organisms.

Etiology.—In considering the etiology of this rare affection, several important facts must first be mentioned. It must be remembered that one of the main reasons why an edematous condition of the anterior surface of the epiglottis does not involve the larynx itself, is, that the anatomical structure of the parts makes an extension of the edematous process very improbable. In other words it depends on the nature of the submucous cellular tissue. Hayek,[23] by his valuable experiments, has beautifully demonstrated this. The submucosa of the interior surface is abundant and the mucosa not tightly adherent, while on the laryngeal surface the mucous membrane is tightly adherent to the cartilage, and, with the exception of in the region of the nodulus, there is no loose submucous tissue. Hence, in cases of true angina epiglottidea, only the anterior surface of the epiglottis is involved. But, although the edema is usually limited strictly to the anterior surface, it may extend, when the edema is very great, by way of the thin submucous tissue of the pharyngo-epiglottic ligament, to the aryepiglottic folds. In mild cases, however, the pharyngo-epiglottic ligament is an effectual barrier, separating posteriorly, the cellular tissue of the epiglottis from that of the sinus pyriformis and aryepiglottic fold, and, as a rule, preventing the extension of the edema from the anterior surface. The laryngeal surface is not involved in cases of pure unmixed epiglottidea anterior; so that cases of acute miasmatic epiglottitis—as the six described by Arnold—must not be confused with the condition under discussion. Their etiology is also different. These cases are probably due to some vegetable or chemical poison present in the exhalations of marshes. This was so in Arnold's cases. In all his patients, young male adults, the attack came on after they had been punting for ducks on mud flats off the California coast. In all there was severe inflammation of the epiglottis—anterior surface—but swelling of the laryngeal surface as well, and in one, glottis edema was a complication necessitating tracheotomy. In one case too, there was edema of the uvula. For the sake of convenience in considering the etiology, angina epiglottidea anterior will be spoken of as acute epiglottitis or simply epiglottitis, which are really very good names for it, because, as before mentioned, an inflammatory process beginning on the anterior surface of the epiglottis, can not easily be accounted anything but a case of angina epiglottidea anterior, on account of the anatomical reasons already given. There is, of course, no doubt that an acute edematous epiglottitis may be secondary to inflammation of the tonsils, anterior faucial pillars or inflammation of the lingual tonsil.

Injury to the lingual tonsil or epiglottis itself, caused by swallowing any sharp or irritating substances or the inhalation of pungent chemical vapors, might also cause it. The swallowing of raw spirits, or very hot or sharply spiced drinks, or exposure to cold are also causes to be thought of. It is also a possible complication of Ludwig's angina or Massei's "acute infectious follicular glossitis." It may be part of a general edema of the fauces resulting from large doses of potassium iodid—as in several cases observed by the author. It may occur during the course of certain infectious diseases, such as measles, variola, scarlet fever, erysipelas, *septicemia, pyemia,* etc. Malaria might also be an etiologic factor. It may occur very suddenly with perichondritis, carcinoma or ulcerative processes due to syphilis and tuberculosis. Angioneurotic edema need not be considered, as the symptoms of acute epiglottitis are those of an acute infectious disorder, and fever is a constant symptom. In order to consider the etiology of primary epiglottitis, it will be necessary to review briefly the cases reported by different writers. In the opinion of the author, anterior epiglottitis is *very often* primary, and is an acute infectious process. A study of the following cases—which are *nearly all the authentic* cases on record—including the author's cases as well, will show that this must have been the case in the majority of the reported cases, although in most of them, there was no mention of a *bacteriological examination.* First, however, an error must be corrected. Meyjes,[34] who has reported an interesting case, makes the statement that Michel, of Cologne, was the first to report cases of this kind. He was probably the first to give the affection its present name, "angina epiglottidea anterior," but his cases are certainly not the first on record. Marsh[4] reported three cases of acute inflammation of the epiglottis in which the inflammation was undoubtedly confined to its lingual surface, and although he did not give it the name under which we describe the condition to-day, he nevertheless gave a most admirable description, which in all essential details, corresponds almost exactly with the disease as we recognize it. In his cases the attacks came on suddenly. Pharynx in all was entirely normal, while the epiglottis was greatly reddened and edematous. The epiglottis could be easily seen in the one case when the tongue was depressed. Patients were feverish. His accurate description and recognition of the condition are all the more remarkable when we consider that it was long before laryngology became an exact science. Long before this, however, in 1791, Mainwaring[1] described a case which is one of the first on record. A man, 40 years old, after exposure, was suddenly attacked at night with violent pain in the throat and complete inability to swallow. The pharynx was entirely normal. The epiglottis was greatly swollen and edematous.

Three cases were reported by Sir Everhard Home,[2] in 1808. These cases too came on suddenly. The epiglottis was greatly swollen, while the tonsils and surrounding parts were practically normal. Burne's[3] two cases were probably also of the same nature, one having a fatal ending. The pharynx was unaffected. Kesteven[7] reported two cases of epiglottitis, in 1849, and claimed that the disease was not met with except in connection with, or as a result of, inflammation of the fauces, tonsils or larynx. One case has been reported by Windsor[11] and four by Larsen.[8] Three of Larsen's cases were acute and one chronic. Two of the acute cases were primary and the chronic case was of syphilitic origin. This subject has also been alluded to by Wunderlich[9]—1856. A case that had a sudden and fatal termination has been reported by Tomkins[5]—1841. After death, the epiglottis was found to be greatly swollen. Other cases have been reported by Louis,[6] and Gibbs.[10] Another case that ended in death has been reported by Crisp.[12] A boy, 8 years old, after having been ill three or four days, died suddenly, apparently of suffocation. The autopsy revealed a swelling of the epiglottis, which was also very red. No other lesion was discernible in any part. Peculiarities of this case were the sudden invasion of the symptoms and the circumscribed form of the inflammation, which was confined to the epiglottis. Author considered death to be due to spasm of the glottis. No irritant had been taken. Fredet[16] has reported the case of a young man of 20. He returned home one night after a debauch and suddenly developed great difficulty in breathing. Symptoms rapidly increased in severity and suffocation ensued in a short time. Autopsy showed great edema of the epiglottis and aryepiglottic folds. When superior part of epiglottis was cut into, a large amount of pus was evacuated. There was no fracture nor necrosis of the cartilage. The suppurative epiglottitis was primary, followed by the edema, and glottis edema that caused death. Now, when we come to the more recently reported cases we find also a great similarity in nearly all, in the rapid development of the symptoms, and the almost constant presence of fever. This was particularly the case in the second one, that of a medical man, aged 38, reported by Milligan.[35] This case was considered to be of septic origin, as the drains in his house were in bad condition. The inflammation of the anterior surface of the epiglottis was probably not primary in Milligan's two cases, as in both the faucial pillars were congested, which is not typical of acute anterior epiglottitis.

In Meyjes' case the anterior surface of the epiglottis was greatly swollen and there was some redness of the right palatine arch. This case is a very good example of the disease. Michel[14] did not find the pharynx particularly affected in the six cases reported by him. Two of his cases were associated with swelling of the aryepiglottic folds; in one there was inflammation of a vocal cord, and two were complicated with Ludwig's angina. Moll[19] has reported a characteristic case in which there was redness and swelling of the anterior surface of the epiglottis, dysphagia and fever. Pel[13] has called attention to the condition, and also Wesseler.[14] Ruault[20] has recognized the existence of a primary circumscribed edema of the epiglottis. In some cases observed by Gottstein[22] no distinct cause could be ascertained. He questions whether edema of the anterior surface of the epiglottis is ever primary. Schmidt was[31] and still is[32] of the opinion that it is practically always secondary to injury or inflammation of the lingual tonsil. Kyle[36] states that "acute epiglottitis is not a separate condition." Störk,[18] on the other hand, twenty years ago recognized the fact that an "idiopathic epiglottitis" does occur under certain conditions. It is surprising that most of the prominent text-books on the nose and throat do not mention this at all or settle the entire question of the etiology of epiglottitis with a few lines to the effect that it is very rarely if ever primary. Browne[33] makes no mention of angina epiglottidea anterior as a separate condition, but believes that acute edematous laryngitis is quite frequently primary. As acute epiglottitis must be considered as perhaps a form of laryngeal edema, and has some of the same etiologic factors, there is no reason why it may not very often occur as a primary condition. Moure[15] too has mentioned the occurrence of primary edema. Out of 6062 autopsies held at the Charité, Berlin, 33 cases of edema of the larynx were found, 10 of which were primary. Bayliss[29] gives particular importance to malaria as an etiological factor in acute edema. Kuttner,[26] Semon and Hajek have done much to clear up the vexed question of the etiology of laryngeal edema in general, although both Kuttner and Semon are of the opinion that edema should not always be classified as a distinct condition.

Semon[27] claims that many of these conditions that have been classified in the past as separate and distinct pathological conditions, have a pathological identity. I certainly believe that the whole chapter of laryngeal edema will have to be rewritten some day. To dwell again briefly on my own three cases, we find that in each the attack came on very suddenly, with fairly high temperature, and symptoms of an acute infectious process. This is the evidence we gather too from the other cases that have already been discussed. While this is a most important point it still does not clear up the etiology, as in most of the later cases no mention was made of bacteriological examinations. And while it is true that in a very careful search of the literature absolutely nothing was found about the bacteriology, I believe that the cultures taken in two of my cases will help to clear up the etiology. We found that the result of the culture examinations was a mixed infection in both cases. In the one a staphylococcus and pneumococcus, and in the other a streptococcus and pneumococcus infection. It will be said at once that this does not prove anything, that all these organisms, particularly the pneumococcus, are found in the mouth quite frequently, both under normal conditions, according to Park,[24] who has often found the streptococcus, and also in cases of simple angina—Veillou.[25] This is, of course, well known, but one important fact must not be overlooked: The cultures taken in cases of simple acute angina, in which the streptococcus is nearly always found, are from surface swabbings. The swab is usually simply brushed over the surface of the mucous membrane. In my own cases, the cultures were taken immediately after scarifications—after the infiltrated submucosa had been cut into—and some of the serous effusion obtained from the deeper tissues. Then, too, the colonies were very numerous, and there were large numbers of the organisms. This gives the question quite a different aspect, and so far as these cases are concerned, they must be regarded as examples of "acute primary infectious epiglottitis." This is a reasonable deduction, and from a study of some of the other recorded cases, I believe we may come to the conclusion, with a fair degree of certainty, that the majority of them were also cases of the same nature, that is, acute infectious epiglottitis. It is, of course, a question, in the writer's cases, as to which organism was mainly responsible for the edema. It is known that the pneumococcus, when some of the lower animals are inoculated with it, will sometimes produce local edema. Welch,[37] in his interesting article on the "micrococcus lanceolatus," has brought this out. He quotes Foa, who distinguished a special variety of this organism. His pneumococcus he called diplococcus lanceolatus of the edematogenic variety. This edematogenic variety of the pneumococcus often produces, after subcutaneous inoculation in the subcutaneous tissue of some of the lower animals, widely spreading or local edema. Welch has also obtained cultures, which when injected subcutaneously, produced uniformly extensive local subcutaneous edema. So it is quite possible that in the two cases, the pneumococcus had something to do with the production of the edema. At any rate, it is quite clear that the edema was an acute infectious one, and that it was primary. In a case of primary edema of the epiglottis and larynx, reported by Levy and Laurens,[28] the edema was also considered to be of an infectious nature.

Diagnosis.—The diagnosis has been sufficiently discussed in considering the etiology, so that it need only be said that the condition can not be well mistaken for anything else. The uniform redness and swelling of the anterior surface of the epiglottis is quite characteristic. The author would enter a most earnest plea for the employment of the laryngoscope in all cases where patients complain of severe pain in the throat and inability to swallow, with a normal pharynx. It is, of course, not necessary to say this to a society of throat specialists, and it is only meant for the general practitioner. If the affection is not recognized early the patient's condition may become very grave and serious complications arise.

Treatment.—The treatment has been largely considered in the report of my cases. I would emphasize, however, the value of early scarifications. I thoroughly agree with Meyjes, in regard to the value of an iced ichthyol spray. It certainly relieves the acute pain and reduces the inflammation very promptly. If for any reason ice, or iced sprays can not be used, steam inhalations—medicated—would be of service.

CONCLUSIONS.

1. Angina epiglottidea anterior is very often primary and is an acute infectious process.

2. The term "acute infectious epiglottitis" is suggested for this condition as being more scientific, and more fully explaining its probable nature. It is, of course, understood that the inflammation and edema involve only the anterior surface of the epiglottis.

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DISCUSSION.

Dr. Emil Mayer, New York City—I believe these conditions are really not so rare. I have seen cases and have scarified them with satisfactory results. They probably occur much more frequently than the presentation the Doctor has made would indicate.

Dr. E. T. Dickerman, Chicago—I remember two cases that may be of some interest in this connection, in which the inflammation, swelling and edema were limited to the anterior surface of the epiglottis. Both cases occurred in men who had been on prolonged sprees. It seemed to me that the edema was due entirely to the retention of imbibed liquids.

Dr. John F. Culp, Harrisburg, Pa.—I am inclined to think that these cases, as Dr. Mayer says, are not very infrequent. Two years ago, while working in the Vienna Polyclinic, I had a case referred to me. The man had been drinking and I found an inflammation of the epiglottis, with much edema of the anterior surface. I made an attempt to use scarification, but, probably due to my own unskilfulness, I was not successful, and I made an application of a 3 per cent. solution of nitrate of silver, brushing over the epiglottis very lightly. Knowing the prevalence of syphilis in these clinics, I thought I would give him potassium iodid. I prescribed 30 grains, three times a day, and advised that ice should be taken into the mouth as often as possible. I know he took the potassium iodid. Three days afterward he came back; he was still pretty drunk, but the inflammation of the epiglottis had almost disappeared.

Dr. John N. Mackenzie, Baltimore—I do not see how these cases differ from ordinary edema of the larynx. The causes of this condition we all know are as multitudinous as the stars. The result of the microscopical examination will depend entirely on the primary cause of infection and will differ very greatly according to that cause. This edematous condition of the epiglottis has been familiar almost in all times. The writers, long prior to the discovery of the laryngoscope, described hydatids of the larynx, especially affecting the epiglottis, and these hydatid formations, so-called hydatid tumors of the larynx, have been shown to be nothing but cases of edema of the epiglottis. Edema is very common in this situation on account of the loose anatomical structure of the parts. These growths attracted the attention chiefly of the writers of the early part of the century in France. Since that time the literature has been enormous. I think, with one of the speakers, that the cases are often due to too much whisky; the conditions are such then as to readily produce edema of the larynx. A famous case of which we all know is that of Washington.

Dr. Corwin—I wish to call attention to a case in which edema limited, so far as the larynx goes, to the anterior face of the epiglottis, occurred very recently in my practice. There was pharyngitis and stomatitis, and the condition was attended with considerable fever. There was some difficulty in speaking, owing to the swollen condition of the tongue. But the prominent condition which the patient complained of, and which I think was referable to the condition of the epiglottis, was that he was unable to swallow any food or liquid practically for several days. This might be interesting in connection with the subject presented.

Dr. John O. Roe, Rochester, N. Y.—As Dr. Mackenzie has clearly stated edema of the epiglottis may arise from an infinite variety of causes. A number of cases have come under my observation. In some that I recall, the condition followed the excessive use of alcohol, in some cases it was associated with diabetes, and in others it followed directly on acute inflammation of the fauces, caused by taking cold. I have observed it in many cases in conjunction with inflammation of the lingual tonsil. Many cases of edema of the epiglottis doubtless occur unobserved, and on careful examination of the epiglottis we will find some edema of the epiglottis in many cases of quinsy. We often have a follicular inflammation of the lingual tonsil at the same time that we have a follicular inflammation of the faucial tonsil, and the reason why it may be considered an infectious trouble is because of the readiness with which the tonsils form a feeding-ground or place for germs to propagate. If a bacteriological examination were made in the majority of these cases, I have no doubt we would find it a germ infection. The diagnosis is readily made with the laryngoscope; but in many cases by depressing the tongue with a curved or Kirstein depressor the epiglottis is plainly seen. The treatment of this condition is that employed in cases of edema of the larynx of an infectious nature, with special reference to the specific cause of the infection.

Dr. C. F. Theisen—In closing the discussion I would say that I am sorry most of the gentlemen seem to have missed one of the main points in my paper. They have been discussing general laryngeal edema and s [illegible] which is often merely part of a general [illegible] fauces. These are not identical conditions with the one I have attempted to describe. The point I intended to bring out in my paper was that the cases I have reported were those of acute primary epiglottitis or angina epiglottidea anterior, with no involvement of the pharynx; that in secondary epiglottitis there is, as a rule, a general acute angina. Dr. Mackenzie said in his discussion that the "condition had been known almost for all time." This may be true to a certain extent, although, of course, an absolutely accurate diagnosis could not be made in these cases before the discovery of the laryngoscope. I did not make any particular claim for its rarity, although I will say again that primary epiglottitis is rare. A good many of the cases reported by the earlier French, German and English writers were probably cases of secondary epiglottitis, or of edematous laryngitis. Dr. Mackenzie also spoke of Washington's case. I did not mention it because it does not strictly belong in a paper with this title, and then, too, it has been a disputed point what Washington died of. At the time of his death the cause was given as quinsy, and this is mentioned by Henry Cabot Lodge in "American Statesmen." The consensus of opinion seems to be that his death was due to acute edematous laryngitis. This is mentioned by Marsh in his article, and also by Lodge.

ATHREPSIA INFANTUM—MARASMUS, OR WASTING DISEASE—ATROPHY—MALASSIMILATION OF FOOD.

ITS CAUSE AND TREATMENT—PROPER INFANT-FEEDING.*

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If infants, when a few months old, suffer with vomiting or diarrhea, and this condition is allowed to become chronic, then colic and flatulence associated with constipation supervene, and result in a gastrointestinal catarrh. Neglect of this condition means the development of the condition known as athrepsia. The infant does not thrive, commences to waste, and unless we realize the condition and give the baby proper treatment, such a child will die of exhaustion from inanition. When these cases linger for months they develop rhachitis. Recovery without treatment is impossible. Parrott was the first to define this disease, and classified it into three stages:

1. The infant suffers from a simple diarrhea or looseness of the bowels. The stools, instead of being bright yellow and homogeneous, are liquid, curdy, often of a green color, and contain an excessive quantity of mucus. The abdomen is distended with gas and remains constantly in this condition; the tongue is coated and the patches of a stomatitis appear in the mouth. The infant is restless, constantly whining, and will not sleep at night. The milk being retained, curdles; the tissues become flabby, and wasting commences.

2. The symptoms are intensified and the characteristic wasting becomes manifest. The stools for the most part are loose and frequent, and consist of undigested food; they are often pale and putty-like, with a peculiar odor. At other times they are of a dark brown, from the presence of altered bile. The infant is most voracious, liquid food does not seem to satisfy it, and by the mistaken kindness of its friends it is fed with some thick food, like soft bread, a diet which has the great advantage in their eyes of keeping it quiet for a longer time than liquid food or diluted milk. At times it can hardly be made to sleep, or only dozes for a short time, unless under the influence of a soothing-syrup applied by its nurse. The mouth becomes the seat of a parasitic stomatitis; the skin is harsh and dry; small boils or a lichenous rash makes its appearance. The buttocks and genitals are raw and excoriated. Its temperature is below normal; the feet and hands are congested, the face has a pallid, earthy tint, and a sickly lactic-acid smell is given out from the body, especially the abdomen. The wasting is extreme, the face being shriveled, the skin wrinkled and hanging in folds about the thighs and arms.

3. The third stage brings the child into a moribund state. It is too feeble to cry, becomes heavy and drowsy, taking little notice of anything. Death then ensues, probably preceded by a muscular twitching, strabismus or general [illegible]

Henoch does not like the term "athrepsia," introduced by Parrott, but prefers "atrophy." The first symptom that this author noticed is that the child's weight does not increase, and hence he emphasizes the importance of frequently weighing children. He regards the weight taken once a week as sufficient, so that it can be a determining factor as to the progress made by an infant. Henoch says that at the end of the first month the weight is increased one-third, at the end of the fifth month it is double, and at the end of the twelfth month it should be three times the weight at birth. Weaning, dentition and all other pathological conditions interfere with a proper increase in weight.

By far the greatest number of cases of athrepsia are found in bottle-fed children. There are, however, a great many cases to be seen among breast-fed children. We can then be positive that the breast milk is lacking in some of its chemical constituents, and frequently we find that it is the proteids that are deficient in quantity. If, therefore, we meet with a case of athrepsia in a breast-fed child the thing to do is to have a chemical examination made of the breast milk. If the latter is found deficient in quality, then we must withdraw it.

A great many children will be found to thrive at once after having been removed from the breasts and changed to some artificial mode of feeding, whereas the reverse is also true. If, therefore, we wish to do away with its own mother's milk, for some positive reason, it is advisable to secure a wet nurse having a child as near the age of the one she is to suckle as possible. The hereditary history of a nurse is of great importance, as is also the quantity and quality of her milk, which should be thoroughly examined before she is given this foster child.

The treatment of this disease is one which resolves itself into removing the cause, and if bad hygienic surroundings, as impure air, crowded apartments and improper diet are the cause, then these must be remedied at once. Medication amounts to nothing in the treatment of this disease.

With hand-fed or bottle-fed children we can easily regulate the condition of their bowels and also easily regulate the quality and quantity of the food given them. The blandest and least irritating food must be selected, while frequent weighing of the infants should be resorted to in order to ascertain the progress that is being made.

Where there is much diarrhea, milk must be used sparingly or altogether omitted for a while, as the hard curds formed in the stomach are beyond the weak digestive powers of the weakened stomach and intestines. Small quantities of whey and barley-water, white of egg and barley-water, or the juice of a rare chop or steak may be given at short intervals during the day and night.

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As soon as the child improves in respect to the diarrhea, milk in some form may be allowed. Peptonized milk is often of much value in these diseases when made by mixing three ounces of cold milk, adding two teaspoonfuls of cream, with one-half of a peptonizing powder to sweeten it, and giving it to the infant after it has stood for fifteen minutes.

The cream mixtures are often of much service, such as one ounce of cream, three ounces barley-water, one teaspoonful of sugar. Every care must be taken that the feeding-bottle is clean, and the food prepared with the most scrupulous neatness.

The great difference between cow's milk and human milk is the fact that human milk is persistently alkaline, whereas cow's milk is usually acid; that there is more nitrogenous material in cow's milk; that there is a much smaller percentage of milk-sugar in cow's milk, and finally, that the nitrogenous constituents of the milk of the cow are affected by rennet in a manner different from those of mother's milk.

In order, therefore, to feed cow's milk to infants, these differences must be corrected, and the correction of them causes further differences, which have in turn also to be corrected; the process, therefore, is a complicated one.

Before considering the means adopted to alter the chemical composition of cow's milk, it would be proper to state that there is a common but false belief that milk from one cow is the best for infants' use. The principle that underlies this belief is perfectly right. It is, that it is desirable to obtain milk of uniform composition, but it has been found experimentally that milk of the same cow varies in its composition during twenty-four hours, and that it is in reality more likely that a mixture of the milk from several cows will show a more constant analytic result than that from one single animal. Jacobi and others have stated that the chances of infection from tuberculosis through the medium of milk can only be lessened by feeding from a large number of cows.

In order to render the character of cows' milk similar to that of human milk, it is necessary to reduce the amount of casein in cows' milk. This is usually done by treating the milk with water, thus diluting it; but sometimes lime-water is used, for the reason to be stated immediately.

Second, the proportion of fat in cows' milk is less than in human milk, and it has been still further reduced by dilution. Therefore, it is necessary to add to it fat in some form or other, and this is commonly done by adding cream.

Thirdly, sugar must be added to cows' milk in order to bring the lactose up to the proper level. It has been held by some that it is necessary to use milk-sugar for this purpose, but there seems to be little doubt that cane-sugar will serve the purpose quite well, or even better.

In the fourth place, according to Jacobi, it is necessary to prevent as far as possible the great coagulating effect that the ferment of the infants' gastric juice has on the casein of cows' milk, and this is satisfactorily accomplished by adding an alkali, such as lime-water, or some mucilaginous material, such as barley water. In this way the casein curd is rendered loose and flocculent and more like that of human milk.

Dr. Meigs, of Philadelphia, advises the preparation of the following mixture: Cream, 2 oz.; milk, 1 oz.; lime-water, 2 oz.; sugar-water, 3 oz.; the latter is made by dissolving about 2¼ oz. of milk-sugar in a pint of water.

Condensed cows' milk is simply cows' milk that has been evaporated to one-fourth of its volume and sterilized, nothing at all being added to it. Then again, there is a form in which the milk is not only condensed, but has also the addition made to it of about 50 per cent. of cane-sugar. When it is also borne in mind that the composition of condensed milk varies with the season of the year, great fluctuations must occur in its chemical constitution.

Condensed milk must also be diluted with water before it is fit for use, and this dilution may entirely disarrange the proportion of the component parts of the fluid. For this reason it is found that even where infants appear to thrive on condensed milk, their apparent good health is due to an excessive deposit of fat, and not to a sufficient supply of albuminoids; and they are in the long run more prone to disease than babies fed on the breast, or on cows' milk properly prepared.

The above remarks apply with less force to that variety of condensed milk which is made from sterilized fluid and then sweetened, but even this preparation requires for digestibility to be diluted some ten times, and this reduces its nutritive value to a dangerous degree.

At times we must resort to various methods of feeding, until we find the proper method upon which a baby will thrive, and so it is that we have: 1, humanized milk; 2, sterilized milk; 3, pasteurized milk; 4, peptonized milk.

1. Humanized milk is simply cows' milk diluted with a certain amount of whey and with some cream. It is prepared in the following way: A pint of milk is set aside in a cool place until the cream rises to the surface. This is skimmed off and kept, and to the milk remaining is added enough rennet to curdle it thoroughly. The whey is strained off from the curd and added with the cream, previously separated, to a pint of fresh cows' milk, and the mixture is known as humanized milk. It is distinctly more digestible than ordinary diluted milk, and often agrees well with young infants, being given without any further dilution, in quantities suitable to the age of the infant. It may be employed exclusively during the first three months of the infant's life, and after that age may be used in combination with some farinaceous food.

2. Sterilized milk is that in which all germs tending to decompose it have been destroyed by exposure to a boiling heat at a temperature of 212 F. for a short period of time, from 15 to 45 minutes. Fresh cows' milk always contains impurities received from the cow or the atmosphere or from the vessels in which it is contained, though much care may have been taken to maintain absolute cleanliness. The milk is usually exposed to the action of steam or in a boiling heat from 5 to 45 minutes, and will keep about 24 hours. A fresh bottle must always be opened for each meal; if anything is left in the bottle after the baby has finished, it must be thrown out.

3. Pasteurized milk is simply steamed at a temperature of 167 to 170, for about 30 minutes, in other words, it is really sterilized milk at a lower temperature.

4. Peptonized milk, the fourth substitute for ordin-

ary diluted milk, is as simple a preparation as sterilized milk. It consists of milk which has previously been partially digested by the addition of some preparation of a digestive ferment, among the best known of which are Benger's liquor pancreaticus, Fairchild's peptonizing powders, etc. The milk should be diluted to some extent before being peptonized; but it is not necessary to dilute to such an extent as has been recommended for ordinary cows' milk. Generally, even for an infant two or three days old, the addition of an even quantity of barley water will be sufficient, and when a baby is two or three months old, a dilution of two parts of milk, with one part of water, will be digested with comfort.

In France there is a law forbidding any one to give solid food of any kind to infants under a year without the written authority of a qualified medical man.

Jacobi says, whatever I have here brought forward, is certainly not to disparage the boiling of the milk; it is to prove the danger of relying on a single preventive when the causes of intestinal disorders are so many. It is true, however, that the large majority of the latter depends on causes which may be met by sterilization; but not by sterilization only; also by pasteurization, that is, heating the milk to 70 C., or 165 F., and keeping it at that uniform temperature for 30 minutes, a procedure which destroys the same germs that are killed by a more elevated temperature, without much change in flavor and taste.

One of the questions connected with the employment of sterilized or pasteurized milk is this, whether the milk to be used for a child ought to be prepared at home, or whether the supply may be procured from an establishment where large quantities of milk believed to become immutable by sterilization for an indefinite period, are kept for sale. In regard to this problem Flugge plainly expresses his regrets that "we have allowed ourselves to be guided by people who are neither hygienists nor physicians, but chemists, farmers or apothecaries, and whose actions have been based on three false beliefs. Of these the first is that boiling for three-quarters of an hour destroys germs; the second that whatever bacteria remain undestroyed are innocuous, and the third, that proliferating bacteria can always be recognized by symptoms of decomposition." Nothing is more erroneous. Soxhlet himself, the German originator of sterilization, knew at an early time, that the fermenting process is now and then but partially interrupted by boiling, that butyric acid may be found in place of lactic acid, that a strong evolution of gas may be caused after such boiling, and that such milk may give rise to flatulency. Aye, milk which happens to contain the resistent spores of bacteria becomes a better breeding-ground for them by the very elimination of lactic acid, and the longer such sterilized milk is preserved and offered for sale, the worse is its condition. It may be true that these conditions are not met with very frequently, but an occasional single death in a family caused by poisonous milk will be more than enough. Therefore, the daily home sterilization is by far preferable to the risky purchase from wholesale manufacturers who can not guarantee, because in the nature of things they can not know the condition of their wares.

Another alteration of a less dangerous character, but far from being desirable, is the separation of cream from sterilized milk which is preserved for sale. Renk[1] found it to take place to a slight extent during the very first weeks, but later to such a degree that 43.5 per cent. of all the cream contained in the milk was eliminated.

Sterilization has been claimed to be no unmixed boon, because of its changing the chemical constitution of milk. Still, the opinions on that subject vary to a great extent, the occurrence of changes being both asserted and denied by apparently competent judges. But what I have said a hundred times is still true and borne out by facts, viz., that no matter how beneficial boiling, or sterilization, or pasteurization may be, they can not transform cow's milk into woman's milk, and that it is a mistake to believe that the former, by mere sterilization, is a full substitute for the latter. It is true, that when we can not have woman's milk we can not do without cow's milk. There is no alleged substitute that can be had with equal facility or in sufficient quantity. But after all it is not woman's milk. Babies may not succumb from using it, and may seldom appear to suffer from it; indeed, they will mostly appear to thrive on it, but it is a makeshift after all, and requires modifications. Hammarsten was the first to prove the chemical difference between the casein of cow's and woman's milk. Whatever was known on that subject at that time I collated in Gerhardt's "Handb. d. Kind," vol. i, 1875, (2 ed. 1882). But lately Wroblewski demonstrated the difference in solubility of the two milks. Woman's casein retains, during pepsin digestion, its nuclein—proteid rich in phosphorus—in solution, it is fully digested; in cow's casein the nuclein is not fully digested, a "paranuclein" is deposited undissolved and undigested.

Henry A. Bunker, in an article on the modification of cows' milk, says that the difficulty of the digestion of the casein of cows' milk in some children has seemed to be the resistance to the infant's digestive powers, even after the partial hydration supposed to be brought about by hydrochloric acid and heat. In all such cases the fecal evacuations were white, hard and dry, such as so often occur on a plain sterilized milk diet. In many of these cases, these dry, scybalous masses would frequently set up mucous diarrhea giving rise to severe colicky pains.

The only evidence of partial hydration by the acid and heat would seem to be the fact of increased nutrition in spite of these difficulties. Professor Chittenden[2] maintains and proves, by a beautiful laboratory experiment, that the products of gastric digestion have the power of combining with more hydrochloric acid than the original proteid, for as soon as proteolysis commences, the products so formed begin to show their greater affinity for acid by withdrawing acid from its combination with the native proteid, a supposition which is necessary to account for even the starting of the proteolytic process. Further, it is evident that proteoses and peptones combine with a far larger equivalent of acid than the native proteid-albumin, in the experiment, is capable of. This, doubtless, depends upon the cleavage of the large proteid molecule into a number of smaller or simpler molecules, each of the latter, perhaps, combining with a like number of hydrochloric-acid molecules. However this may be, it is evident that the products of pepsin-proteolysis combine with a larger amount of hydrochloric acid than the mother proteid, and that the transformation of the latter, at least under the conditions of the experiment, is a slow and gradual process.

It will be remembered that the original method proposed the hydration of the milk-proteids by hydrochloric acid and a rather prolonged boiling. Twenty drops of a 10 per cent. hydrochloric-acid solution were added to one pint of water and one quart of milk, and this mixture was to be kept at boiling temperature for about twenty minutes. The addition of a larger amount of the acid, unless the milk was quite fresh, was found to result quite frequently in curdling the milk. It was also found that the acid so added, up to the point of saturation or breaking, exists as combined acid, as was evident from the failure of reagents to show free hydrochloric acid in the completed mixture.

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[1] Arch. f. Hyg., xvii.

[2] Cartwright Lectures on Digestive Proteolysis, 1894.

The indications that the hydration secured by this method is not always sufficient to meet the requirements of certain infantile stomachs and the fact that usually in such cases the nutrition is increased in spite of incomplete and painful digestion, seemed so strongly confirmatory of the results of Prof. Chittenden's researches, that I determined to copy, in part, his experiments on HCl saturation, as applied to the proteids of milk.

To this end, milk was prepared in the original way, except that the twenty drops of dilute hydrochloric acid were added in a one-half, instead of one, pint, watery solution, and slowly but intimately mixed with one quart of milk. This mixture was brought as rapidly as possible to the boiling temperature and then set aside until another half pint of water was prepared with twenty drops more of the acid. This was added to the previously boiled milk and acid, stirred thoroughly and again brought to the boiling-point. The result thus obtained was a thoroughly palatable milk, with no taste of having been boiled, and gave no indication of free hydrochloric acid with Gunzberg's reagent. Rudisch's plan is similar to the latter.

Proteids in excess are indicated by the presence of curds in the stools. This is the most frequent cause of colic in infants. Sometimes there is diarrhea, more often constipation when the proteids are in excess. The excess of proteids frequently causes vomiting and so does an excess of both fat or sugar. If, therefore, after reducing the percentage of proteids, fat or sugar, vomiting still persists, then we must feed the baby with smaller quantities. Thus, we may have to give a four-ounce bottle where a six-ounce or a five-ounce feeding causes vomiting. Certain rules can be laid down; if an infant does not thrive, that is, does not gain in weight without showing any signs of indigestion, then the proportions, i. e., percentages of all ingredients, should be gradually increased, chiefly the proteids, however, for the latter is the most important element in an infant's food. An infant soon after birth was put on modified milk, containing:

Fat	2.00
Milk-Sugar	5.00
Albuminoids	0.75
Lime-water	1/16

I ordered eight feedings, two ounces in each. As the child was constipated, soon after we increased the formula to the following percentages:

Fat	2.50
Milk-sugar	6.00
Albuminoids	1.00
Lime-water	1/16

As the stools did not change, the fat was increased to 3 per cent., other ingredients the same. The child gained but three ounces in weight in five weeks, had greenish, curded stools, and had distinct evidence of intestinal indigestion. It also vomited curds. The general condition of the child was one of extreme irritability, with very little sleep. Hand-feeding was stopped. The child's alimentary tract was thoroughly cleaned, and a wet-nurse secured. This was when the baby was six weeks old; the child nursed well, gained six ounces the first week, eight ounces the second, and weighed fourteen pounds when it was four and a half months old. The child improved until it was seven months old, when suddenly the weight remained stationary. A specimen of breast milk was sent to John S. Adriance, the chemist of the Nursery and Child's Hospital, who found the following percentages:

Fat	2.0
Sugar	7.431
Proteids	.882
Ash	.162

Specific gravity 1031; reaction, alkalin.

It is very evident that the deficiency in albuminoids or proteids is accountable for the stationary weight. The child did not gain an ounce in one month. We discharged the wet-nurse, and resorted to hand-feeding, when the child's general condition changed, and she is bright and well to-day.

In another instance, a child had been nursed by its own mother for three months, and had gained in weight regularly at the rate of six and seven ounces per week; the stools were normal in quantity and quality, when suddenly the child appeared to be colicky, was restless at night, had green stools, and did not appear to thrive. For two consecutive weeks the child did not gain in weight, and a specimen of breast milk was sent to the Pediatrics Laboratory. Mr. R. W. Bailey, the chemist, examined the specimen with the following result.

Fat	2.43
Proteids	1.25
Sugar	6.51
Ash	.20
Total solids	10.39

Specific gravity, 1027, reaction, slightly alkaline.

The percentage of fat and proteids is so low, that it was very plain to me why this child did not increase in weight. On putting the child on an oatmeal and top-milk mixture, the digestion improved, the child's sleep was better, and the weight increased.

Another case was that of a nursling, brought to me with a history of excessive crying, greenish stools, cheesy curd in the stools, vomiting, restlessness, and a general condition of malassimilation; I asked for a specimen of breast milk, which Mr. Bailey kindly examined, with the following result:

Fat	4.32
Sugar	6.22
Proteids	1.80
Ash	.19
Total solids	12.53

Reaction, neutral.

The general history of the case showed that the child was fed every time it cried, and thus it was evident that overfeeding was the real cause of the trouble in this case, for I learned that the child frequently nursed for hours at the breast, and was also allowed to go to sleep with the nipple in its mouth. Whenever the child cried it was fed, frequently as often as every half hour, so that in this case, whilst the quality of the breast milk was absolutely normal, as demonstrated by the chemical examination, it required only the judicious interval for feeding to give the child's stomach proper time for the assimilation of its food.

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LIGHT AND SEATING IN THE SCHOOL.[*]

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Although we know that our vision very closely depends in its acuity on the degree of illumination, we have not arrived at establishing a definite law as to the relation of sight and intensity of light which might be formulated in mathematical terms. Experiments were made in that direction as early as 1754, by the celebrated astronomer, Tobias Mayer, of Goettingen. He changed the distances of a candle from ½ to 13 feet from certain systems of lines, and ascertained the distances in which he still could see them. From this he calculated the visual angles and found them, that is, the vision, at an inverted ratio to the sixth roots of the intensities of light. One hundred years later Aubert found that vision increases at a little faster rate than the logarithms of the intensities of light. Another method, adopted by Schmidt-Rimpler, Carp and Cohn, was to note the decrease of sight by putting smoke-colored glasses—the numbers 1 to 6—before the eyes of school-children. They observed great individual differences. The sight was relatively more impaired by decreasing illumination with increasing age, and in short-sighted than in normal eyes. More recently Uhthoff,[1] on the suggestion of von Helmholtz, made investigations, in von Helmholtz's laboratory, in Berlin, on the dependence of vision on the intensity of illumination in the different portions of the spectrum, and from his observations he constructed curves with the acuity of vision as ordinate axes, and the illumination as abscissas. The curves show great analogies in the different kinds of light from green toward red. At first they ascend very steeply, which means in the smaller intensities of illumination an enormously rapid increase of the acuity of vision with growing intensity of illumination. But, after a certain amount of the latter is reached, the curve turns rather fast and rises very slowly until it runs parallel with the abscissa. This signifies that, after a certain objective intensity of illumination is passed, a constantly decreasing ascendance of vision occurs, which finally reaches its limit although the intensity of illumination waxes more and more. Even a decrease of vision took place from glaring when the intensity of light became too high. From green toward violet a much greater variation of intensity is required for the same rise of vision than from green toward red. Uhthoff explains this from the predominance of yellow and green light in the artificial illumination. A visual power = 1.25, also decreases faster from green toward red with diminishing intensity of light than in blue light, and the difference is greater on the one side the nearer to the yellow portion of the spectrum, and on the other the nearer to the violet. This is in concordance with the phenomenon of Purkinje, namely, that after a blue and red area appear to the eye of the same illumination, the blue seems to reflect more light than the red, if the intensity of illumination is lowered, and less light than the red if the intensity of illumination is raised. The intensity of perception is a function of the intensity of illumination, which varies in the different kinds of light. The intensity of perception increases more slowly, and decreases more slowly for blue than for red, at the same variation of the objective intensity of light.

Last year H. Cohn published the visual results obtained from the examination of 50,000 school-children in Breslau, made out of doors. They were much higher than hitherto supposed. Almost one-half of all the pupils had normal vision, and more than one-third of all between twice and thrice the normal vision out of doors. The former was noted more frequently in girls, the latter in boys. Only 10 per cent. had vision below the normal. This shows the immense preponderance of intensity of light emanating from the open sky over the illumination in the room, and calls for a distinction of the true acuity of light in the open air from that in the schoolroom.

Practically it suffices to know that, if the illumination sinks we can not see as well, and, if we want to continue our work, we have to bring the book nearer to our eyes, so that the visual angle and the retinal images become larger. This, however, brings about a strain of the eyes by increased accommodation and convergence, which again causes congestion of the eyeballs and head. The latter is still augmented by interference with circulation and respiration, in consequence of the stooping position, by which the blood-vessels of the neck are compressed and the venous outflow from the head impeded. If this faulty position and strain of the eyes become habitual, spasm of accommodation, stagnation of blood in the eyeball, tension of the tunics and elongation of the eyeball will follow and myopia develop.

The question arises, how can we ascertain the right illumination, below which no school work ought to be allowed? For that purpose, H. Cohn, of Breslau, devised text types, on cards of a certain tint, which ought to be easily read by a healthy eye at six meters distant in sufficient daylight. Another test is the ability of a normal eye to read diamond type—D. = 0.50—at one-third of a meter—12 inches. If not, the schoolroom requires artificial light.

A new era in the investigations for illumination in the schoolrooms was advanced in 1883, by the invention of the photometer, by L. Weber, of Breslau, which allows an exact and rapid determination of the illumination on any seat of the room in daytime, and also for artificial light. The intensity of light is given in numbers of meter-candles, the intensity of one meter-candle being the illumination of a sheet of paper which is placed one meter distant from a normal candle—of stearine, of which six weigh a pound.

As mentioned above, the best illumination is furnished by the sky, and it is desirable that each desk receive as much sky-light as possible. The quantity of the latter can be ascertained by an instrument constructed by L. Weber, which he called *Raumwinkelmesser,* a meter of bodily angles. The *Raumwinkel* of a certain point of an illuminated desk is the solid angle formed by these lines or rays which are drawn from this point to the edges of the window and impinge on the sky. If this angle equals 0°, that is, if no sky-light falls on a certain place, the illumination of the latter will be—on cloudy days—1 to 3 meter-candles, reflected from the walls of the room. If it rises to 50°—with medium elevation angle—it corresponds to 10 meter-candles, an illumination which is considered as the minimum for a working place; this, however, allows only of three-quarters of the regular vision.

There can not be too much light in a school-room; it ought to be flooded with light, that the darkest place will have sufficient illumination on a dark day. The quantity of light depends on the size and number of windows, their relation to the space covered by the room, their exposure to the cardinal points and the situation of the schoolhouse with regard to its surroundings. The best arrangement would be if one wall of the schoolroom were entirely taken up by glass, like an atelier. Under all circumstances the windows ought to be as large as possible and reach up to the ceiling, since the upper part which admits the sky-light is the most important. They ought to be so large that at least 30 square inches of glass correspond to 1 square foot of floor, that is, 1 glass to 5 floor. Many older schoolhouses fall below this proportion, but some of the more modern ones exceed it. Architectonic ornaments must not encroach on surfaces which ought to be occupied by glass, and the jambs and piers between them must be as small as possible; these are made advantageously of iron, to insure the stability of the wall. The piers ought to be beveled toward the room, and the lower sill must not be less than 1 meter distant from the floor, so that the light does not glare from below.

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[*] Read before the *Principals* and Teachers of the Public Schools of Milwaukee.

[1] Von Graefe's Arch., 32 and 36.

With regard to the situation, sky-light from the ceiling would be the best, This, of course, is only attainable in the top floor and is best utilized for drawing. In the lower stories the windows ought to be on the left side of the room, so that in writing there is no shadow from the hand. In addition to these, windows may also be in the rear, which, however, would disturb the teacher at his desk. If the room is very large the illumination will be increased if windows are also on the right side. These, however, must be placed high up, near the ceiling, and must not extend downward as far as on the left side, in order to avoid perverse illumination, which has an annoying effect on the retina and causes contraction of the pupils, associated with a strain of accommodation. The consequence of the latter is, that the objects have to be brought nearer to the eyes, which again creates a tendency to myopia.

The width of the schoolroom, that is, the distance of the windows from the opposite wall, must not exceed twice the distance between desk and upper window-sill. The situation of a schoolhouse at a free place without any surroundings is most advantageous. In large cities this, of course, is not always possible. But it ought to be a rule that the distance of surounding buildings from the schoolhouse be twice as long as their height. The lowest point of the sky which sends light into the room lies immediately above the edge of the roof of the opposite house. The light from this point penetrates farthest into the room. Every other point of the sky illuminates only portions of the room nearer to the window, so that the whole area of the sky-light which illuminates the room is bordered by lines drawn from this point to the upper and lower window-sills toward the desk. All portions of the room outside these lines are illuminated by the walls of the opposite buildings, and are, therefore, darker. It will readily be conceived that the higher the story the more sky-light it will receive.

The exposure of the windows toward the east and south gives the most intense light, some, however, prefer the north, to avoid annoyance by the sun. To obviate the latter, gray curtains are the best, one from above and one from below, or with the pole fixed in the middle of the window, so that it will not be necessary to darken the whole window. The tint of the walls ought to be light-gray.

As the school hours fall in the daytime, the question of artificial light is of minor importance. If it is used it must have no glaring effect, must not fall below 10 meter-candles, must be steady and not be hot. In that respect the incandescent light is preferable, as it does not consume the oxygen of the air and vitiate it. The glass of the lamps ought to be lightly ground, to remove the glaring effects of the wire. A group of lamps may be placed in the center of the ceiling, with a porcelain reflector above them, and a sufficient number of them distributed over the remainder of the ceiling and along the cornices.

Next to good light, the most important reform in school hygiene is the correct seating of the pupils. Not only from an orthopedic standpoint it deserves especial attention in order to prevent curvatures of the spine, but also with regard to the prevention of short-sightedness, by maintaining the proper distance of the eyes from the reading and writing objects. Besides that, the position must be the most natural one in which the body is most at ease, and which, therefore, can be endured for continuous work. The body can only remain at rest in a sitting posture, if the point of gravity, which lies in front of the tenth chest-vertebra, is in a perpendicular line above a base drawn through both seat-bones, which form the lower part of the pelvis and are the rotation points of the trunk. Any deviation of the point of gravity forward or backward requires a third point of support as a guard against the unstable equilibrium thus brought about. In the forward inclination this will be the front edge of the seat, but the muscles of the pelvis which will help to support the body in that position will soon tire, and, for relief, the chest and elbows will lean on the desk. The falling backward must be prevented by a back-rest, which ought not to be higher than the lower lumbar vertebra. If there is positive horizontal distance between desk and seat, the more will the trunk fall forward and deviate from the correct upright position. We have positive distance when a perpendicular line from the posterior edge of the desk falls some horizontal distance forward from the perpendicular line dropped from the front edge of the seat. In the construction of desks positive distance must, under all circumstances, be avoided, and must be converted into negative distance, that is, the front edge of the seat must reach under the desk, namely, 3 to 5 cm. forward from the perpendicular line dropped from the back edge of the desk. The vertical distance between desk and seat must be adapted to the individual in such a way that in the erect position the eyes remain 40 cm. distant from the desk, which is also about the distance of the eyes from the elbow, when hanging down. The distance of the latter from the seat-bone is one-eighth of the length of the whole body. From this the difference between desk and seat will be found if 4 to 9 cm. are added to one-eighth the height of the pupil. The feet must rest on the floor, from which it follows that the seat must be as high as the leg, measured from the sole to the inner bend of the knee, and as long as the thigh is long, from the inner bend of the knee to the back, with a width of at least 33 cm., to secure a sufficient support of the seat-bones and the thighs. It should be slightly concave, to prevent sliding forward. Reading a book lying horizontally, requires rolling of the eyes downward, which soon becomes tiresome, or stooping of the head forward, which is also faulty. Thus an inclination of the top of the desk of 45° would be best for reading, but not for writing;

to facilitate the latter an inclination of 1 to 6, or 10° is preferable. To meet the requirements of different individuals for correct sitting according to the principles set forth, desks and seats only which permit of ready and separate adjustment will give satisfaction. The best forms are those of the Chandler Adjustable Chair and Desk Company, of Boston. If the adjustment is once made it can not be altered by the pupil, if the key to it is withheld from him, and the desk and chair are screwed firmly to the floor. The Chandler desk leaves free space for the feet of the pupil, while the single standard desk presents some obstruction. In the back of the Chandler chair the central support is curved forward at the proper height to furnish the requisite support to the sacrum and the lower lumbar vertebræ, and thus counteracts the tendency of the pelvis to rock backward.

A table of dimensions and measurements is given as a guide for the arrangement of the desk and seat, based upon the tables of Erismann and Fahrner, and similar to that of Priestly-Smith. The directions for using the table are: Measure the height of the scholar; then find in the table the number that most nearly corresponds to it, and directly under it in the same column will be found the figures required for the different adjustment. The top of the desk can be made adjustable, allowing the pupil to stand between the desk and the seat when standing. It complicates, however, the mechanism, causes noise, requires time for adjustment, and is not necessary, since the pupil may rather step into the aisle, which allows him a better and less encumbered position.

Even the best constructed seats and desks can not prevent children assuming faulty positions, if not carefully watched. Thus the duty of the teacher will remain to admonish his scholars to sit erect.

SOME REMARKS ON THE PLANTAR REFLEX, WITH ESPECIAL REFERENCE TO THE BABINSKI PHENOMENON.*

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DENVER, COLO.

Believing that the duty of the specialist in this association, working in a special line other than surgical, is to bring forward for discussion, observations and recent discoveries on mooted points that will aid the railroad surgeon and physician in the diagnosis of certain diseased conditions, I shall attempt to give the generally accepted views, of neurologists at least, on the value of the "Babinski sign," the pathological plantar reflex; or, better yet, slow extension of the great toe, with or without extension and separation of the other toes, as an aid in diagnosing disease in certain portions of the central nervous system.

My observations have been made on 830 cases, 380 in hospital and 450 in private and consulting work. Besides, 2550 cases taken from my old records, I have utilized for the purpose of determining the frequency of the plantar reflex in nervous diseases in general. I wish to express my indebtedness to Drs. Delahanty, Hall, Sewall and Freeman for the privilege of investigating the plantar reflex in their cases in the Arapahoe County Hospital, and to the resident physicians of that institution for the intelligent assistance freely rendered me by them; also to Dr. Hopkins for permitting me to observe cases under his care in St. Anthony Hospital; likewise to Dr. Lemen for allowing me to utilize the U. P. patients in St. Joseph's Hospital. I wish to thank the nurses in training in St. Luke's and Arapahoe County hospitals and some of the graduate nurses of these institutions for permitting me to investigate their plantar reflexes.

The Babinski sign is a comparatively new one, even in neurological diagnosis, and I do not fear of being accused of bringing a subject worn threadbare before an association composed mainly of railroad surgeons and physicians.

I wish to state, before going further, that I do not intend to discuss theories in this paper. My object will be to present facts and draw conclusions that I hope may aid in the diagnosis of disease in certain portions of the central nervous system.

The Normal Plantar Reflex in the Adult and the Method of Eliciting It.—If I were to include the whole phenomena of the plantar reflex I should have to note the contraction of several of the thigh muscles and some of the leg muscles which usually contract before the toes are flexed. My remarks are for railroad surgeons and physicians, and not for the neurologist. I shall, therefore, limit, for the most part, what I have to say to the movements of the toes. With this limitation, the normal plantar reflex consists in flexion of one or of all the smaller toes and frequently of the great toe on moderate stimulation of the plantar surface of the foot. The flexion sometimes delayed for a brief moment after stroking the foot is rapid, usually most marked in the outer toes, may be limited to these, but is often accompanied by flexion of the great toe. As a rule, a little firmer stroking of the plantar surface of the foot is necessary to cause flexion of the great toe than of the smaller toes. It must be remembered that flexion of the toes is usually accompanied or immediately followed by inversion and dorsal flexion of the foot at the ankle. Care must be taken not to mistake this for extension of the toes. Strange as it may seem, I have seen this error made on more than one occasion.

Precautions Necessary in Eliciting the Plantar Reflex.—In the first place the leg must be in a comfortable position, and so placed as to prevent any of the muscles of the leg or foot being put on the stretch. If the patient is nervous, and apprehensive of being hurt, it is wise to distract his attention from your investigations by engaging him in conversation. The same object may be accomplished by covering his eyes and beginning the examination by testing his tactile sensation with a camel-hair pencil. After his attention becomes concentrated on this method of procedure, the plantar surface of the foot may be gently stroked, and in the majority of instances the patient, not suspecting the object of the physician, will answer: "I feel that." The stroking should be the lightest that will elicit the reflex, but at the same time if the gentle stroking fails to cause any plantar reflex, the irritation should be increased in vigor until one is satisfied that there is no plantar reflex present. The plantar surface may be irritated on the outer or middle portions, stroking from the heel toward the ball of the foot, or from the outer to the inner surface just posteriorly to the ball of the foot. Stroking the inner side of the plantar surface often causes the most contraction of the toes, but it has the disadvantage of giving rise to greater movement of the foot, inversion and dorsal flexion at the ankle. The finger-nail, or what I have found better, the quill holder of a camel-hair pencil, answers every purpose for an object with which to stroke the foot. If the patient's attention is not directed to what one is doing when he is testing the plantar reflex, voluntary and semi-voluntary movements of the foot and leg are least likely to complicate the results. The plantar surface of the foot should be dry and warm when the reflex is tested.

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* Read in abstract at the Seventh Annual Meeting of the Academy of Railway Surgeons held in St. Paul, Minn., Sept. 5-6, 1900.

The normal plantar reflex may be modified by age, sleep and stupor or coma, especially in children, mental development, the condition of the plantar surface, dropsy of the feet and legs, trophic changes in the feet from old nervous lesions and by ankylosis of the toes.

Age.—In the healthy adult the plantar reflex, if present, may be lessened during sleep and other unconscious states, but it is probably always attended by flexion of the toes. In infants, before they begin to walk, the plantar reflex, while brisk as in the adult, is somewhat irregular, and may be attended by contraction, or by extension and separation of the toes. Collier[1] states that in infants the extension of the toes continues in healthy subjects up to the end of the first or second year; in the weakly until the fourth year, and is occasionally found up to the sixth or twelfth year when the child is asleep. In the latter group of cases the adult reflex returns as soon as the child is awakened. Personal experience in examining the plantar reflex in infants has proved very unsatisfactory to me. The feet of infants when exposed are always in constant motion, especially while under examination. The movements consist in extension and separation of the toes, followed by rapid flexion. It has often been very difficult for me to determine whether the toe movements were more extension than flexion. I have not been able to examine the plantar reflex of infants while they were asleep in a sufficient number of cases to enable me to draw any conclusions. In one I found the reflex absent so far as the toes were concerned, in two there was flexion of the toes followed by extension, and in three the toes quickly extended and separated, followed a few seconds later by flexion.

Cohn, Schüler, Watson, Paul, Sachs and others have apparently met with equally unsatisfactory results in examining children in health.

Delayed or arrested development is often attended by an irregular plantar reflex. I have recently seen a case of idiocy in a boy of 6 years in whom the infantile type was preserved, and another in a girl of 20 years in whom the infantile type was present when the patient was asleep, but the irregular adult type appeared on arousing the girl.

The plantar reflex may be lessened or abolished by anything that lessens the sensibility in the plantar surface, such as lesions in the nerves, cold and dampness, dropsy and trophic changes of the feet and also by ankylosis of the toes.

Variations of the Plantar Reflex in Apparently Healthy Adults.—Is the plantar reflex ever continuously absent in healthy adults, and may it be absent in one foot and present in the other under such circumstances, even when all the necessary precautions are taken *in testing for the reflex?*

Collier says: "If the preceding points are taken into consideration, I think that the common statement that the plantar reflex is not rarely found completely absent in healthy subjects will not be confirmed."[1] Fraenkel and Collins say: "We have never found it absent without adequate attributable cause, such as peripheral neuritis."[2] Knapp and Langdon hold the same view.[2]

On the other hand, Blocq and Onahoff think it is frequently absent.[3] Schüler, Cohn, Walton and Paul found the plantar reflex absent in 10 per cent. of healthy subjects.[4]

I have records of 100 healthy subjects in whom I carefully investigated the plantar reflex and found it absent on both sides in 9 per cent., after excluding a series of 7 subjects whose cases will be referred to presently. In the 100 subjects I endeavored to take every necessary precaution. If the feet were cool or moist I had them rubbed with a coarse towel until the plantar surfaces were dry and red. Then after waiting a few minutes I covered their eyes and carefully tested the plantar reflex. Fearing that the vigorous rubbing with a coarse towel might have abolished the plantar reflex for the time being, I re-tested the cases some hours later, and still the results remained the same.

The most remarkable results were obtained on testing the plantar reflex in 7 healthy, strong and vigorous nurses while on duty in the wards of the Arapahoe County Hospital. The feet of all were warm and dry. In 1 only was the plantar reflex present in both feet; in 1 it was absent in one foot and present in the other —flexion—in 5 the reflex was absent on both sides. These tests were made at about 5 p.m., after the nurses had been on their feet all day. Thinking, possibly standing on the feet for so many hours might have something to do with abolishing the plantar reflex, I visited the hospital the following morning at 7:25 a.m., before the nurses had gone on duty, and re-investigated the reflex, but to my surprise there was no change to record in the results that I had obtained the previous afternoon, except that in the one with normal reflex in one foot, the reflex was found absent in both feet. These results would lead one to suspect that occupation has something to do with modifying the plantar reflex in health and possibly in disease.

I should remind you that these observations had to do with the toe movements alone. The curious results that I obtained on examining the plantar reflex in 7 nurses determined me to examine the plantar reflex in as many nurses as I should be able to obtain for investigating the reflex under consideration. I shall have, therefore, some 47 other nurses in whom I have to report the condition of the plantar reflex before I close this paper.

It is well known that the plantar reflex may soon be exhausted in many healthy subjects, that it may be present at one time and absent in another, but that it may be absent without any appreciable cause is important to bear in mind.

In answer to the second inquiry: "May the plantar reflex be absent in one foot and present in the other in healthy subjects, even when all necessary precautions are used in testing the reflex?" Dr. Knapp is of the opinion that such a condition is not found unless there is some disease of the nervous system. Drs. G. L. Walton and W. E. Paul, in their excellent article in the June number of the *Journal of Mental and Nervous Disease*, of the present year, give the results of their examinations of the plantar reflex in 100 normal subjects as follows: "All, or some, toes—generally the outer—of both feet flexed in 75 per cent.; no movement, 10 per cent.; flexion on one side, no movement on the other, 15 per cent." In the 100 apparently normal subjects of which I have notes plantar reflex was present on one side and absent on the other in 5 cases.

It seems to me that if one will investigate the plantar reflex in a number of healthy subjects he will have to admit that this reflex may be absent in one or both feet in a small percentage, probably from 8 to 12 per cent.

The Babinski Phenomenon or Pathological Plantar Reflex.—This consists in rather slow and deliberate extension of the great toe with or without extension and separation of some or all of the other toes on stroking the plantar surface, as is done in attempting to test the normal plantar reflex. The pathological reflex differs from the normal reflex in three ways. 1. The great toe makes the greatest and sometimes the only movement. 2. The movement is one of extension and separation, the latter most marked in the smaller toes. 3. The movement, especially well marked in the great toe, is much slower than in normal flexion and gives rise to the impression of deliberation. I can best illustrate the difference by testing the normal and pathological reflex in the subjects whom our president, Dr. Wheaton, has kindly arranged to have present at this session of the Academy.

In 1896, Babinski first called our attention to the extensor movement of the great toe with or without extension or separation of the other toes in connection with lesions of the pyramidal tract. His first paper seems not to have attracted much attention, as it was apparently overlooked in the proceedings of a biological society.[5] He continued to investigate the subject, and two years later described certain characteristics of the pathological movement, namely, that extension is slower than flexion, and that while flexion is stronger in healthy subjects when the inner side of the plantar surface is stroked, the reverse of what holds true in extension of the toes. The second communication[6] attracted a great deal of attention, especially on the continent of Europe and to a much less extent in England. I have been unable to find any records of an American investigating the pathological reflex of Babinski, prior to the publication of Dr. James Collier's paper on the plantar reflex—both physiological and pathological. This paper appears in *Brain,* vol. xxii, part 85, p. 71, for 1899.

In the *Journal of Mental and Nervous Disease* for June, 1900, p. 307, Drs. G. L. Walton and W. E. Paul give a rather long list of investigators who have studied the plantar reflex in health and in various diseases.

Two papers, one by Walton and Paul,[4] devoted to the consideration of the plantar reflex, and one by Fraenkel and Collins,[2] giving a short consideration to this reflex, were read before the recent meeting of the American Neurological Association. In the discussion that followed a number of the prominent members participated. You see that the pathological or Babinski plantar reflex has not been prominent before the medical profession for more than two years, yet it has received general attention from the neurologists, both in Europe and America, as a diagnostic sign.

A résumé of the results obtained by various investigators of the pathological plantar reflex may be summed up in a few paragraphs. I must thank Drs. G. L. Walton and W. E. Paul for making this easy for me, as I shall still further condense their condensed summary.

Babinski in his first report—1896—simply called attention to the fact observed by him that in pyramidal disease, stimulation of the plantar surface of the foot on the affected side was followed by extension of the great toe, and often by extension and separation of the smaller toes. He termed this *le phénomène des orteils.* Two years later—1898—he called attention to further particulars, the most important of which was, that the extensor movement of the toes is slower than flexion, and that flexion is stronger when the inner side of the plantar surface is stroked, the converse being true of extension. He reported mixed varieties which he thought were pathological and physiological, as stroking one part of the foot would cause flexion and another part extension, the first part of the reaction being flexion, followed by extension. Again, he noted in some cases extension of the inner toes and flexion of the outer ones resulting from the same stroke. His observations were confirmed by fourteen observers, including Collier, of England, and Langdon, of America. There seemed to be a unanimity between the fourteen observers, in that the toes, especially the great toe, would be slowly extended on stroking the plantar surface of the affected foot in diseases of the pyramidal tract.

Collier, while he maintained that the toes extended in pyramidal disease in the adult on stroking the plantar surface, that the movement is slow, that the great-toe movement preceded the movement of the smaller toes, found a similar movement in infants, except that it is quicker. He also found that extension of the toes is the only reflex movement in total transverse lesion of the cord. He was able to obtain the extensor plantar reflex in a case of tetanus and in a case to which he had given large doses of strychnin. Babinski reported a case of strychnin poisoning in which the extensor plantar reflex was present.

"Cestan and Le Sourde found the extensor reflex in 92 per cent. of the 68 hemiplegiacs examined, and in all the 35 cases of spinal disease implicating the pyramidal tract—except one case of neuritis also—in all the 6 cases of syringomyelia, and in all the 30 cases of infantile hemiplegia and diplegia." [4]

Dr. F. W. Langdon says: "The constancy of 'extensor' plantar reflex on the paralyzed side in organic cerebral hemiplegias is such as to render the Babinski sign here a very valuable diagnostic aid, especially in the unconscious patient. The sign is present in recent and old hemiplegias, appearing usually within a few hours after the stroke and before the knee-jerks return."[7]

In looking over Langdon's 110 tabulated cases in which the plantar reflex was tested, I find in one case of right hemiplegia the right plantar reflex was irregular, or absent, and left absent. In a case of left hemiplegia, right plantar reflex was flexion, left, slight extension or absent. In another case of left hemiplegia the plantar reflex on both sides was flexion, but the paralysis had nearly all passed away. In one case of left hemiplegia, complicated by meningitis and gumma, the plantar reflex was flexion, most pronounced in the left. He also reports one case of hysterical contracture, with hemiplegia of the entire left side—face, arm and leg. The plantar reflex in this case was right, flexion; left, extensor. He states that the affection of the left side could be made to disappear on hypnosis. If this case, No. 58 in his table, was hysterical in character, the extensor reflex did not mean organic disease in this case, at least. Personally, I do not believe that a paralysis and contracture which disappear under hypnosis must necessarily be functional in character.

On the other hand, let me give the views of three other observers who are less inclined to accord to the extensor plantar reflex so great a value in diagnosis. Giudiciandrea states that he found plantar extension in hysteria and in normal individuals. Schüler found extension plantar reflex—notably of the great toe—in 8 per cent. of the men examined, in 10 per cent. reflex was absent, and in two indeterminate; in normal women 4 per cent. extension, in 10 per cent. absent, and in 6 per cent. doubtful. In 8 cases of pyramidal-tract disease extension was present and pronounced. In children the reflex was either absent or rather unsatisfactory. Cohn found flexion in 60 per cent. of healthy persons; extension of the great toe, with either extension or flexion of the others, in 20 per cent.; absent reflex in 10 per cent.; and variable movements in 10 per cent. He found the plantar reflex generally absent in infants, but when present it was usually extension; usually extension in recent cases of apoplexy; in 4 cases of spinal spastic disease, extensor reflex in 2. In one case of hysterical hemiplegia he found extension on the paralyzed side.[4]

Schwab gives Cohn's conclusions as follows: "In the majority of all persons an irritation of the sole of the foot is followed by flexion of the toes. In lesions of the lateral tract of the spinal cord of an organic character, an extension reflex is to be observed. In no way, however, can this phenomenon be regarded as a certain pathognomonic symptom for the recognition of such disease."[5]

In the two recent papers which treat of the plantar reflex in disease of the pyramidal tract, Collins and Fraenkel state: "From our observations, we have corroborated the findings of Babinski, Van Gehuchten, Collier and others, that this type of plantar reflex—the extensor—is not found in normal individuals, and that when carefully examined with the precautions mentioned above, it is found only in cases in which there is unmistakable evidence of disease of the pyramidal tract."

In paragraphs numbered 3 and 4 of Walton and Paul's conclusions, we read as follows: "3. The Babinski reflex obtains in about 70 per cent. of hemiplegics and diplegics, and in approximately the same percentage of cases with disease involving the pyramidal tract in the spinal cord." "4. The Babinski reflex—deliberate and constant extension of the great toe, with or without extension and separation of other toes—is never present in health, and our observations lead us to doubt its existence in either functional or organic nervous or other disease not implicating the pyramidal tract."[4]

Personal Observations on the Plantar Reflex, both in Health and in Disease.—From 1878, when I first began to pay especial attention to the diseases of the nervous system, till the spring of 1899, the time when I first became familiar with Babinski's investigations, results and conclusions, I paid strict attention to the plantar reflex, but failed to observe the important points to which Babinski has so recently called our attention. During the past eighteen months, or since the spring of 1899, I have investigated the Babinski phenomenon in nearly every case that I have seen at my office, in consultation, or in St. Luke's Hospital. It was not until a few weeks ago that I utilized any of my cases seen and studied prior to my becoming acquainted with the Babinski phenomenon and the methods and precautions necessary in investigating it. In looking over my records from 1878 till 1898, I find the plantar reflex was registered as follows: Plantar reflex R. present or absent; L. present or absent, with a note as to whether the foot was flexed toward the dorsal or plantar surface.

It will be seen that I can utilize my old material only as to whether the plantar reflex was absent or present.

I have been unable to look up the records of all my old cases of nervous and mental diseases, but have been able to ascertain whether the plantar reflex was absent or present in 2550 recorded cases. In the hospitals I have studied the plantar reflex with especial reference to the Babinski phenomenon in 380 cases. In office and consultation practice and in private work in St. Luke's Hospital I have studied the plantar reflex in 450 patients suffering from organic or functional nervous diseases, or from insanity, a total of 3380, 2550 of which are of little importance in the study of the Babinski phenomenon. I shall first give a short analysis of the 2550 old cases of nervous and mental diseases.

Tumor of the brain, 100 cases: In 40 cases the pyramidal fibers were involved either directly or indirectly, and the plantar reflex was present in all on the affected side until just before death, when on account of exhaustion they disappeared. On the unaffected side of the plantar reflex was present in 38 cases and absent in 2. When the patients became greatly exhausted just before death the reflex disappeared on both sides. In the 60 in which the pyramidal tracts were not affected the plantar reflex was present in 54 cases; in 3 absent and in 3 the reflex was present on one side and absent on the other.

Intradural tumors of the cord, 5 cases: Plantar reflex was present in 3, absent late in the disease in one and present on one side and absent on the other in one.

Abscesses of brain, 12 cases: In all, the pyramidal fibers escaped: 4 of the cases were seen early in the disease and the plantar reflex was present in these; 8 cases were seen when the patients were becoming exhausted; the plantar reflex was present in 6 and absent in 2.

Cerebral meningitis, 75 cases: Sixty of these were tubercular; 50 in children, 10 in adults, 7 syphilitic and 8 from suppuration of the middle ear. In the 50 tubercular cases in children from a few months to 12 or 13 years of age the plantar reflex was absent in all after coma set in. In the 10 tubercular cases in adults the plantar reflex was absent in 8 and present in 2. Patients greatly exhausted. In the 7 syphilitic the plantar reflex was present in 4, absent in 2 and irregular in one. In the 8 from suppuration of the ear the plantar reflex was present in 4 and absent in 4.

Syphilis of the brain and cord, 100 cases: In 56 plantar reflex was present, in 30 absent and in 14 irregular.

Hemiplegia from vascular lesions, 150 cases: On the paralyzed side plantar reflex was present in 130 cases, absent in 10 and irregular in 10.

Bilateral thrombosis, 2 cases: Plantar reflex was present in both.

Posterior spinal sclerosis, 100 cases: Plantar reflex, although in some cases it was feeble, was present in 35, absent in both feet in 48, absent in one foot and present in the other 17.

Multiple neuritis, 20 cases: Plantar reflex present in 8, absent in 12.

Anterior poliomyelitis, 40 cases: Plantar reflex present in 24 cases, absent in 16 in which changes were well marked.

Neuritis of the sciatic nerve, 10 cases: Plantar reflex was present in all.

Pressure neuritis of the sciatic nerve, 20 cases: Plantar reflex present in 18 cases and absent in 2.

Pressure neuritis of the nerves of one or both legs, 12 cases: Plantar reflex present in 8, absent in 4 cases.

Myelitis, 60 cases: In 10, cervical, plantar reflex was present in all. In 20 dorsal, plantar reflex was present in all. In 30 dorso-lumbar plantar reflex was absent in all.

Complete transverse lesion of the cord, 6 cases: No plantar reflex was present.

Spinal caries, 50 cases: Plantar reflex was found in all above the lumbar region, absent in all cases of the dorsolumbar region with distinct cord symptoms.

Friedreich's disease, 8 cases; Plantar reflex was present in all.

Paralysis agitans, 8 cases: Plantar reflex was sluggish in all.

Hysteria, 50 cases: Plantar reflex was present in 29 cases, absent in 21.

Neurasthenia, 100 cases: Plantar reflex was present in 90 cases and absent in 10.

Nervous irritability—commonly known as simple nervousness, 93 cases: Plantar reflex was present in 85 cases and absent in 8.

Chorea, 50 cases: As far as I could determine, the plantar reflex was present in all, but the wild movements of the feet made in some cases accurate observation impossible.

Epilepsy, 100 cases: Plantar reflex was present in 93 and absent in 7.

Traumatism to the head, 60 cases: Plantar reflex was manifest in 40 and absent in 20.

Traumatism to spine and cord, 40 cases: Plantar reflex was present after the shock was over in all cases in which the injury was above the dorsolumbar region, provided the cord was not completely severed.

Deaf-mutes, 25 cases: Plantar reflex was present in 22, absent in 3.

MENTAL DISEASES.

Dementia, 200 cases: Plantar reflex was present in 80, absent in 104, present in one foot and absent in the other in 16.

Paretic dementia, 200 cases: Plantar reflex was present in 120, absent in 50 and irregular in 30.

Mania, 200 cases: Plantar reflex was present in 190, absent or irregular in 10.

Melancholia, 200 cases: Plantar reflex was present in 60, absent in 120, and irregular or absent in 20.

Paranoia, 250 cases: Plantar reflex was present in 200 cases, absent in 20, irregular in regard to the two sides in 30.

Feigning, 30 cases: Plantar reflex was present in 26 cases, absent in 2, present on one side and absent on the other in 2.

Stuporous melancholia, 20 cases: Plantar reflex was absent in all.

Melancholia attonita, 10 cases: Plantar reflex was present in 6 cases and absent in 4.

Weak-minded children, varying in age from 8 to 15 years: Plantar reflex was present in 40 cases, absent or irregular in 10.

Imbecility, 75 cases: Plantar reflex was present in 60 cases, absent or irregular in 15.

Idiocy, 25 cases: Plantar reflex was present in 19, absent or irregular in 6.

The average percentage of the presence or absence of the plantar reflex in each of the above individual nervous diseases is approximately as follows:

Tumor of the brain, present 85, absent 15; intradural spinal tumors, present 100; the plantar reflex was lost in all before death.

Abscess of the brain, present 83.3, absent 16.7; meningitis in stage of coma, present 13.3, absent, 86.7; syphilis of the brain, present 70, absent 30; hemiplegia from vascular lesions present 90, absent 10; bilateral thrombosis, present 100; posterior spinal sclerosis, present 52, absent 48; lateral sclerosis. present 100; anterior poliomyelitis, early present 90, absent 10; multiple neuritis, present 40, absent 60; in inflammation of the sciatic nerve, present 100; pressure neuritis affecting the sciatic nerve, present 90, absent 10; pressure on several nerves of one or of both legs, present 66.7, absent 33.3; myelitis, present 50, absent 50; complete destruction of cord, absent 100; caries of spine above dorsal region, present plantar reflex, 100; in dorsolumbar with involvement of cord, absent plantar reflex 100; Friedreich's disease, present 100; hysteria, present 58, absent 42; neurasthenia, present 90, absent 10; nervousness, present 91.5, absent 8.5; chorea, present 100; epilepsy, present 93, absent 7; traumatism to head, present 66.7, absent 33.3; traumatism to spine, present 70, absent 30; deaf-mutes, present 88, absent 12; dementia, present 48, absent 52; paretic dementia, present 60, absent 40; mania, present 95, absent 5; melancholia, present 33.3, absent 66.7; paranoia, present 90. absent 16; feigning, present 93.3, absent 6.7; stuporous melancholia, absent 100; melancholia attonita, present 60, absent 40; weakmindedness, present 80, absent 20; imbecility, present 85.7, absent 14.3; idiocy, present 76, absent 24.

The average percentage in which the plantar reflex was present or absent in the 2550 old recorded cases is as follows: The plantar reflex was present in one or both feet in 77.8 per cent; it was absent in both feet in 22.2 per cent.

I have found from observation that the simple presence or absence of the plantar reflex in organic nervous disease especially, but sometimes in the functional, depends largely on the vigor or physical exhaustion of the patient at the time the test is made. For instance, vigorous physical exercise for fifteen or twenty minutes in the gymnasium apparently does not modify the plantar reflex, but, on the other hand, laborious work carried to the point of almost complete exhaustion will abolish the reflex. In the case of multiple neuritis the plantar reflex is present and vigorous extremely early in the disease. In nearly all severe cases, at the height of the disease, especially if there are great physical exhaustion and trophic changes in the feet, the plantar reflex is almost invariably absent. After diphtheria, if the plantar reflex becomes excessive, I have learned to fear multiple neuritis.

Tumor and abscess of the brain are no exception to the general rule, that in complete exhaustion preceding death the plantar reflex usually disappears.

Since my attention was called to Babinski's observation on the plantar reflex, which was about eighteen months ago, I have carefully examined the reflex with especial reference to this phenomenon.

I examined 100 patients in the hospital, apparently free from any nervous or other trouble that should affect the plantar reflex, using every necessary precaution, and I obtained the following results: Plantar reflex present, 86; absent, 9; absent on one side and present on the other, 5. There was no Babinski phenomenon in any of these.

The above percentage of absent plantar reflex in the normal subject is in line with the results of Walton and Paul, and with those of several other investigators, but contrary to the views of Knapp, Langdon, Collier, and Collins and Fraenkel. The number of cases in which I found the plantar reflex in one foot and absent in the other is less than the results obtained by Drs. Walton and Paul.

(To be continued.)

COSTA RICA, ITS PHYSICIANS AND MEDICAL INSTITUTIONS.

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The short midwinter vacation I am spending in Costa Rica has afforded me an excellent opportunity to study the diseases of this little republic and to become acquainted with its leading medical men and its most important institutions devoted to the care of the sick. Costa Rica is the smallest of the Central American republics. Its present population does not exceed 300,000, and is made up largely of Indians, Jamaica negroes and Spaniards, with a small sprinkling of whites from the United States and the different European countries. The coast on both sides is low and swampy to the base of the mountains. The low lands supply the world with bananas, and the mountain sides are covered with coffee plantations. The interior is mountainous and picturesque, a Switzerland plus the tropical forests and impenetrable jungles. Along the coast the heat is depressing, being greatly aggravated by the ever-present atmospheric humidity. At an elevation of from

3000 to 4000 feet, the climate is delightful, the temperature ranging from 70 to 80 F. throughout the year. The nights are always cool. San José, the capital, is located in a beautiful and fertile valley at an elevation of nearly 4000 feet above the level of the sea. Its present population is 20,000. It is lighted by electricity and has an efficient telephone system and an electric tramway. Cartago is the next largest city, with a population of 13,000. Port Limon is the most important seaport town and is connected with San José by a narrow-gauge railroad, constructed by Mr. Keith, an American capitalist, at an expense of $15,000,000. Nearly all of the large business firms and plantations are owned by foreigners, who have contributed largely to the rapid development of the resources of the country. The government and laws of the country are modeled after those of the United States.

THE COSTA RICA PHYSICIANS.

There are at the present time few parts of the civilized world which are not amply supplied with medical men who are able and willing to serve the sick. Costa Rica is well supplied with doctors, native and foreigners. I take this occasion to warn our recent graduates not to come to this country with the expectation of gaining fame and amassing a fortune in a few years. Those who have done so have, in the majority of cases, been sorely disappointed. There are very few rich people in this country and even the well-to-do are far apart. A man with $200,000 is considered wealthy, and $10,000 is looked upon as sufficient to place a family in easy circumstances. More than 75 per cent. of the population are poor, and at the end of the year have little, if anything, left with which to pay for medical services. There are about sixty doctors in Costa Rica, most of whom live in the larger cities. There are over thirty physicians in San José, with a population of less than 25,000. Then, too, the fees are very small. The average charge for a visit in this city does not exceed $1.00, and nearly every doctor finds at the end of the year when he collects his bills that nearly one-half of them are worthless. The poor are often content with one visit, even in grave and prolonged cases, more especially those who expect to pay their bills.

Surgical work is estimated on the same scale. One hundred dollars for any kind of an operation is regarded by surgeon and patient a handsome fee. Fortunately Costa Rica has no medical college. A number of years ago some efforts were made in this direction, but the best elements in the profession vetoed the project. For some reason that even the native doctors do not comprehend, Madrid is not selected as the place to obtain a medical education, as we would naturally take for granted, considering language and the fact that the best families are of Spanish descent. Most of the Costa Rican physicians received their medical education and training in the United States and England, only a very few have visited the universities of Germany and France. The prominent doctors occupy a high social position and command a powerful political influence. Dr. Duran served as vice-president and, when the president was forced to resign, filled the highest position in the gift of the people. Cabinet positions have been repeatedly occupied by the ablest and most popular physicians. As a rule, the professional relations are harmonious. The spirit of progress and advancement is manifest by occasional visits to the great medical centers of the United States. There can be no doubt that the projected construction of the Nicaragua canal will be one of the many means to establish a closer relationship between the medical profession of our country and that of Costa Rica.

ACADEMY OF MEDICINE OF COSTA RICA.

The only medical society in Costa Rica is the National Academy of Medicine. The president for 1900 is Dr. Bonnefil. The weekly meetings are held in the capital city. It is a source of regret that a few of the very best men have not seen their way clear to become members. The excuse offered that the transactions lack in scientific work is hardly tenable, because those that can not learn should consider it a great privilege to teach. The Academy is invested with certain rights granted by the government; for instance, the members nominate and elect the Board of Medical Examiners. Every physician who intends to practice his profession must pass a satisfactory examination before this board. No one is admitted to these examinations without a diploma from a medical college in good standing.

HOSPITALS.

Hospitals have been established in all of the larger cities. There are two small hospitals in Port Limon. An effort is now being made to consolidate them into one, a move in the right direction. One of these little hospitals is maintained by the United Fruit Company and the other by the railroad, and both are in charge of Dr. Steggall, the most prominent practitioner on the coast. There is only one hospital in San José to which the sick poor of the city and district are admitted. It is built on the pavilion plan and has a capacity for one hundred patients. It is in charge of the Sisters of Charity Saint Vincent de Paul, with Sister Josephine at the head. The ample surrounding grounds have been appropriately beautified by skillful gardening. Dr. Nunez, the most prominent physician in the city, is medical superintendent; Dr. Duran, chief surgeon. The remaining medical staff consists of: Dr. Th. M. Calneck, consulting surgeon; Dr. M. Bonnefil, consulting physician; Drs. F. Zumbado and G. Jiminez, assistant surgeons; Drs. E. Rojas and J. M. Soto, medical attendants.

Dr. Nunez is a leader in politics as well as in his profession and everything pertaining to the public welfare. Dr. Duran, his classmate and partner, is an expert and successful operator. The morning I visited the hospital he had commenced the difficult task of entering the bladder without a guide, in a case of impermeable stricture of the urethra. The patient, a young man, was greatly debilitated by the secondary consequences of the stricture, septic cystitis and phlegmonous inflammation of perineum and scrotum; the latter had resulted in numerous fistulæ. It was, as he said, the most difficult case he ever encountered. His skill, patience and perseverance were finally rewarded by success, when he emptied the bladder of a large quantity of ammoniacal urine and established free drainage. The operating room is modern and furnished with a good instrument supply and the necessary facilities for aseptic and antiseptic work.

Recently a very much-needed addition has been made in the form of a maternity ward and it was my pleasure to see two babies which first saw light in the great room which is destined to become a refuge for many an anxious, homeless mother. The institution, like all those in charge of the Sisters of Charity, is scrupulously clean. The food is plain, but palatable and substantial. It is time that the sisters, like those of the same order in the United States, should establish and maintain a training-school for lay nurses. I made a strong plea to accomplish this most desirable object and trust that it made a sufficient impression on Sister Josephine to at least seriously consider the propriety of such a change in the nursing of the sick inside and outside of the hospital. There is only one ward set aside for private patients, who pay from $7 to $14 per week, including medical attendance. The pharmacy is in charge of one of the sisters.

LEPER COLONY.

Costa Rica, like all Central and South American states, harbors its full quota of lepers. It is estimated that at the present time there are scattered throughout the state about 150 to 200 lepers. The adjoining United States of Colombia, with a population of 2,000,000 has 35,000 lepers. The disease invaded Costa Rica from that source about fifty years ago, and since that time it has become diffused over the entire state. On paper, segregation has become a law, but like many other laws it has never been carried into effect. The leper home consists of a number of old buildings on an eighteen-acre lot near the western limits of the city, and contains 30 inmates. It is in charge of Dr. Toledo, who is at the same time the sanitary inspector of the city. The sexes are about equally represented. It is a noteworthy fact that all Costa Rican lepers are the subjects of the nervous form of the disease, while the three Jamaica negroes are suffering from the advanced stages of the tubercular variety. Dr. Toledo is now testing the therapeutic value of a new vegetable remedy, but so far no positive results have been observed.

INSANE ASYLUM.

The insane asylum is a state institution to which the poor insane from all districts are admitted. It can accommodate 150 patients, and at the present time contains 135 inmates. Ample provision has also been made for private patients of the first, second and third class, who at a comparatively small expense can avail themselves of all the advantages of a private asylum. This institution is known by the euphonious name of Asilo Chapui in memory of a saintly priest who died one hundred years ago, and who donated a large tract of land to the city. For the last eleven years the asylum has been under the case of Dr. Maximilian Carl Bansen, a German physician of more than national repute. To the great learning, executive abilities and enthusiasm of Dr. Bansen must be attributed the great success of this institution. The hospital is surrounded by a magnificent flower and vegetable garden. The floral wealth of this garden can be approximately estimated from the fact that it contains 160 varieties of roses. The remaining part of the grounds supply the asylum with coffee, bananas and other tropical fruits. According to the statistics, including many years, 50 per cent. of those admitted recover their mental equilibrium, and of those discharged cured only 2 per cent. have been known to suffer from relapse. This marvelous result is secured by the methods employed in the treatment. Dr. Bansen places the greatest stress on abstracting the patient's mind by giving him employment which does not tax the mental faculties, that is, physical exercise and mental rest. About 40 per cent. of his patients are thus employed. Dr. Bansen regards the excessive use of the strong alcoholic native liquor as the most important etiologic influence in provoking the disease. He looks upon coffee and all stimulants as harmful in its treatment. The asylum is a model of cleanliness and its entire management bears testimony to the great executive abilities of its director. Although the physicians in every part of the state send patients to the asylum, practically it is left for Dr. Bansen to determine their mental condition and reject or admit them.

PREVAILING DISEASES.

The two diseases which afflict this country the most and which intimidate the foreigner as well as the native, are malaria and yellow fever. Malaria of the most malignant form prevails throughout the entire year in the banana districts, along both coasts, but the physicians here are willing to admit that no part of the state is entirely free from it. The pernicious form of malaria is often mistaken for yellow fever, and vice versa, something that has given rise to a great deal of confusion at the seaport towns under quarantine regulations. The Jamaica negro possesses the greatest intrinsic resistance to malarial infection and he is the one upon whom the banana grower must rely almost exclusively in tilling his lands. The negro knows this only too well, hence, his haughty demeanor and sense of independence. The physician's here do not look upon the mosquito as the sole carrier of the disease, as they are frequently called upon to treat malaria in localities where there are no mosquitoes. In pernicious malaria they rely almost entirely on deep subcutaneous injections of bisulphate of quinin in 40-grain doses.

Colon and Panama are the hotbeds of yellow fever and the free communications between these places and the seaport towns of Costa Rica are responsible for frequent outbreaks of the disease. Segregation and disinfection are not observed to the extent they should be in preventing the spread of yellow fever. Port Limon has gained an unenviable reputation as a focus of infection, largely by mistaken diagnoses. That the disease frequently makes its appearance at that point there can be no question, but that many cases of malarial fever have often closed the doors of commerce is equally true. Isolated cases of yellow fever occasionally have been seen in the mountainous regions and it is not always easy and sometimes impossible to trace the source of infection. Goitre is very common among women, young and old. Gonorrhea and syphilis are prevalent to an alarming extent and are by no means limited to the lower classes, although the negroes furnish the largest percentage. Pulmonary tuberculosis and tuberculosis of the lymphatic glands, bones and joints appear to be quite rare. Rheumatism is very common and affects the inhabitants of the low lands as well as of the mountainous regions. Barbadoes leg is quite frequently seen, but is more common in the South American countries. Cholera infantum claims many victims throughout the entire year, and it is said that less than 50 per cent. of the infants reach childhood. Faulty feeding is the cause of this enormous infantile mortality.

QUARANTINE.

There is certainly something wrong with the quarantine regulations between the ports of New Orleans and Limon. The health authorities of the port of New Orleans enforce quarantine against the port of Limon seven out of twelve months every year, to the great detriment of the shipping interests. The fact is the New Orleans authorities have no faith in the health officer of the port of Limon and the doctors employed by the United Fruit Company. To a certain extent the action of the Board of Health of Louisiana is justifiable, as formerly the United Fruit Company usually employed recent graduates in medicine, who often have never seen a case of yellow fever and who are not competent to differentiate between this disease and grave attacks of malaria. The same can be said of most of the physicians sent by the board of health of other states to the seaports of Central America. The quarantine system at the port of New Orleans is, however, too complicated. There are two quarantine stations under the jurisdiction of the State Board of Health which often at a distance decides whether or not a vessel should be detained, which often gives rise to great confusion and not infrequently enforces unnecessary quarantine. The best solution of this important and difficult question would be to place the port of New Orleans under the jurisdiction of the Marine-Hospital service, which has done such excellent work in other states in guarding our country against invasion of yellow fever and other infectious diseases from foreign ports.

In conclusion I desire to recommend to my colleagues who are in need of midwinter vacation the hospitable shores and beautiful climate of Costa Rica. The cool nights in the mountainous region can not fail in securing rest for the brain as well as the body, and in restoring the nervous energies which are so heavily taxed by an onerous and exacting practice. They will meet in San José and elsewhere a cordial reception on the part of their colleagues and will leave the country, as I shall do in a week or two, with many regrets and the most pleasant memories, fully satisfied that the time was well spent.

San José, Dec. 30, 1900.

Surgical Treatment of Bubonic Plague.—In a report to the Surgeon-General of the Marine-Hospital Service, Acting Asst.-Surgeon W. Havelburg, of Rio Janeiro, Brazil, states that the clinical registry at the Paula Candido Hospital during the period from June 1 till August 31 shows that there were 221 plague patients treated by extirpation of the infected glands, of whom 45 died, giving a death-rate of about 20.8 per cent. And of 143 patients with solitary infected buboes, treated in the same manner, 23 died, showing a death-rate of about 16 per cent. The diagnosis in all the above cases was confirmed by two bacteriological examinations, one before removal to the hospital and the other after admission to the wards. Serotherapeutic treatment was instituted in a number of other cases, but the effects of operating displayed such favorable results that injection of serum in the others was deemed unnecessary. The necropsy reports in the cases that died showed buboes that were inaccessible to operations, being scattered in the mesentery or deeply situated in other tissues.

Sero-Agglutination in Tuberculous Effusions.—Courmont announces that sero-agglutination does not occur in any effusion except those of tuberculous origin and that it is inversely proportional to the virulence and rapidity of the infection. He noted it in 74 per cent. of all cases of tubercular pleurisy, in a proportion of 1 to 5 or to 20 or even higher, but it was absent in all cases of tubercular miliary pleurisy, peritonitis or meningitis. The effusion in experimental tuberculosis does not agglutinate if the culture inoculated was virulent, but with an attenuated culture is was very pronounced, as much as 1 to 600 in the dog, for instance.—*Sem. Méd.*, November 28.

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MALARIAL FEVER.

Malarial fever prevails especially where heat, moisture and decomposing vegetation are present because these are favorable to the existence of mosquitoes. Malarial infection occurs most commonly after sunset, because mosquitoes, after remaining in hiding during the day, set out upon their depredations after dark. The infection is not widely diffused in a horizontal, oblique or vertical direction because mosquitoes do not fly far from their place of origin, and especially not to a great height. The infection is not conveyed, but rather hindered, by winds, because the insects do not leave their hiding-places when the wind blows. Woods, instead of preventing, may be foci of malarial infection, because the mosquitoes make their hiding places in damp woods and trees.

A great advance was made when, in 1880, Laveran, a French army surgeon at Algiers, discovered the parasite of malarial fever, but it was not till fifteen years later that their complete life-cycle was demonstrated by Ross, a British army surgeon in India. The observations of Laveran were soon confirmed and elaborated by others, particularly in Italy and America. It has been shown that the malarial parasites are protozoan organisms belonging to the order of sporozoa and, by reason of their living at the expense of the red blood-corpuscles belonging to a special suborder known as hemosporidia. Members of this group, though not necessarily of the same genera and species, have been found in batrachia and reptiles, in birds and in mammals.

For a long time a warm discussion was waged as to whether the parasites were polymorphous varieties of a single organism or so many different and distinct organisms, but the consensus of opinion is at present in favor of the latter view. According to Celli there are in man at least three species: Two for the mild fevers—spring quartan and tertian—and one for the severe or estivo-autumnal fevers—tertian and quotidian. The individual identity of the several varieties of malarial parasites has been demonstrated by inoculations from man to man, the same febrile type only being reproduced in every instance. Of course, mixed infection is impossible, and may give rise to anomalous or atypical forms of fever.

It has been shown that in man, as in birds, the hemosporidia have two life-cycles: an asexual cycle in the blood of malarial animals, and a sexual cycle in the bodies of special mosquitoes.

For centuries it has been a popular belief that mosquitoes have something to do with malarial fever, and Koch found that a similar notion prevailed among the natives in South Africa. In 1848, Nott, an American, suggested that both yellow fever and malarial fever were conveyed through mosquitoes. A similar view was put forward by Allessandrini in 1870, by King in 1883, by Laveran in 1884, by Flügge in 1889, and by Pfeiffer and Koch in 1892. In 1894, and again in 1896, Manson proposed the view that the malarial parasites, in order to maintain their existence, must pass from man to another host, and he concluded that inasmuch as they are incapable of leaving the body through their own efforts and are not extruded in the excreta, they must be removed by some blood-sucking animal, which he believed to be a particular species of mosquito. Ross, then, in 1895 and 1897, was able to demonstrate the parasite in the stomach-wall of particular mosquitoes fed on malarial blood, and he was able also to convey the parasite through the mosquito to birds and to man. Ross' observations were at once verified and elaborated by Italian investigators and others and the evidence is now so complete that there can be no further doubt as to the part played by mosquitoes in the propagation and transference of malaria. If additional confirmatory evidence be wanting it can be found in the development of malarial fever in healthy individuals, in London, inoculated with malarial mosquitoes brought from Italy. Further, the disease did not develop in a number of observers who lived during the malarial season in an intensely malarial district of Italy, but merely protected themselves against the bites of mosquitoes, while the disease prevailed as usual among others in the same locality but not protected against mosquitoes. Not all varieties of mosquito, however, act as the definitive host of the malarial parasite, of which man is considered the temporary host. It is especially insects of the genus Anopheles, and particularly Anopheles claviger, also called maculipennis, although other varieties are capable of playing the same rôle. It is not known with certainty whether, apart from the intermediation of man, the malarial parasite may be transmitted from one mosquito directly to another, either from a parent mosquito to its offspring or from the body of a dead mosquito eaten in stagnant water by larvæ.

It may be conceived that certain conditions predispose to malarial infection apart from those that favor the existence of the infecting mosquitoes. Chilling of the surface of the body seems to be the most important of these, probably by lowering the bodily resistance. The spring is generally the season for mild cases and the autumn that for severe cases.

The Michigan Board of Examination and Registration has thus far put 43 American medical colleges on its list of reputable schools.

THE PRESENCE OF BACILLUS TUBERCULOSIS IN THE HEALTHY NASAL CAVITY.

Cornet's experimental work led him to state that infected dust is an important and dangerous factor especially to those in attendance on tuberculous patients, and that this danger lies first and foremost in tuberculous sputum that has become dry. In one of his series of experiments he collected 149 samples of dust from various places frequented by tuberculous patients, as hospital wards, private dwellings, streets, etc., and made inoculations into 392 animals. Fifty-nine animals became tuberculous, representing 40 samples of the dust, or a percentage of 26.8, while on the other hand 29 animals which were inoculated with dust from non-infected places, remained healthy.

An interesting series of experiments has recently been made by Flügge and his associates in Breslau with the object of showing, 1, the infectiousness of dust bearing dry powdered sputum, and 2, the infectiousness of fine droplets of mucus expelled by talking, sneezing, coughing, etc., when laden with tubercle bacilli. In the first series, carried out by R. Sticker, infected dust was blown into the faces of guinea-pigs and compared with like tests in which sterilized dust was employed. In the infected cases seven of the eleven animals became tuberculous, while those inoculated with sterile dust remained healthy. But he found the infectiousness of such dust to depend directly on the strength of the air current employed and the absence of moisture. The finest, lightest dust, when perfectly dry, was able to produce an inhalation tuberculosis under the influence of very weak currents of air.

Concerning the infectiousness of fine droplets of mucus laden with tubercle bacilli, uniformly positive results were obtained by Laschtschenko, Beninde and Heymann, each experimenting in a different way. In these experiments phthisical patients were made to cough or speak into the faces of guinea-pigs directly, or they were allowed to cough or speak near sterile plates or dishes containing sterilized salt solution, and this in turn was used for inoculation. It was found that the elements of distance and duration of exposure play most important parts in the dissemination of the germs, for only a few positive results were obtained from exposures made more than 1.5 meters away from the patient and then only after a considerable time. That the conditions in these experiments are actually present in hospitals, factories, counting-rooms, workshops and the like, where the occupants are at all crowded, there is no doubt; it would seem, as urged by Flügge, that this method of infection might largely be done away with if prophylactic measures were instituted.

Strauss first demonstrated in 1894 the presence of virulent tubercle bacilli in the nasal cavities of those who, being non-tuberculous themselves, were in more or less constant attendance on tuberculous patients. His experiments were made on house-physicians, nurses and non-tuberculous patients, and resulted in his finding the micro-organism in 9 of 29 persons examined, or approximately 41 per cent.

This work suggested the question of the presence of tubercle bacilli in the nasal cavities of healthy persons who did not have the care of the tuberculous at all, and were subjected to only the ordinary amount of infection to which every one living in a large city, especially, must submit. In carrying out this work Jones[1] examined 29 men all in good health, no tuberculous lesions being discovered on physical examination. The contents of the nasal cavities of each, consisting of mucus, solid particles, dirt, etc., were removed by sterile cotton swabs, from the nasopharynx outward, and washed into a test-tube containing 10 c. c. of a sterilized normal salt solution. This solution was then injected, under aseptic precautions, into the abdomen of a guinea-pig, the wound closed by collodion dressing, and the animal allowed to live until it died either from the effects of the inoculation or from other causes. Of the 30 animals inoculated death occurred in times varying from a few hours to eighty-six days. Each animal was examined carefully post-mortem and in the series 3 revealed a generalized tuberculosis of the viscera. This is approximately 10 per cent. of the cases.

In general, this series of experiments goes to show that virulent tubercle bacilli may be present in the nasal cavities of healthy persons in the ordinary walks of life, but not so frequently as in those who have the care of the tuberculous.

THE PURIFICATION OF SURFACE WATER-SUPPLIES.

The Committee on the District of Columbia of the United States Senate is investigating the relative merits of slow filtration through sand beds and rapid filtration in connection with the use of coagulants as applied to surface waters for their purification. The Engineer Department of the Army made experiments on the Potomac river water during the past year and recommended for the water-supply of Washington the adoption of a system of mechanical filtration with alum as a coagulant. The District Medical Society took exception to this recommendation and urged the construction of sand beds for slow filtration as giving better sanitary results.

From the hygienic standpoint the subject before the senate committee is not a difficult one. There is no question as to the efficiency of slow sand-bed filtration in removing bacteria from a polluted water and lessening the prevalence of typhoid fever among the communities using the filtered water. There is, on the contrary, a question as to the efficiency of mechanical filtration, particularly as to the removal of typhoid bacilli, for the installation of mechanical filtration plants in cities has not been followed by that marked diminution in the mortality from this disease which has been recorded in communities which have adopted the sand-bed filters. The mechanical filter is still in the experimental stage so far as concerns typhoid fever. Its effluent is clear and transparent, but this, from the sanitary point of view, is relatively a minor consideration, the object being to prevent disease and lessen the death-rate.

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[1] Medical Record, Aug. 25, 1900, xlviii, 285-289.

The efficiency of the sand-bed depends on a slow and regulated filtration; that of the mechanical filter on the addition of alum to the water to clarify it. Carbonates in the water decompose the alum, precipitating the gelatinous aluminum hydrate which entangles clay and other particles constituting the turbidity, together with the bacteria which may be present. These are strained off by the passage of the water through the mechanical filter. It is the alum, not the filtration, which is actively concerned in the removal of the bacteria. If enough alum is added the effluent is clear and gives satisfactory results on bacteriological examination. If an insufficient quantity is added the effluent may be turbid and charged with bacteria. If too much is added or more than can be decomposed by the carbonates present, alum will remain in solution in the effluent as a most undesirable accidental constituent. With care at the water-works alum may no doubt be added to effect its purpose without a trace of it appearing in the effluent, but it will be conceded by all medical men that chemicals which would be injurious in excess should not be added to a water-supply if a satisfactory purification can be effected without their use; and the experiments of the Engineer Department on turbid Potomac river water have shown that such purification can be accomplished by slow sand-bed filtration.

A BAD SUPERSTITION.

According to a Toledo (Ohio) physician, some people in that city have a superstition against paying doctors' bills. They think if they pay him in full they will have to pay him again. "It may be all right," he says, "as a superstition but it is pretty tough on the doctors." This must be a very widespread superstition, and its existence must have been in the mind of the celebrated medical writer who dedicated his works "to all men who are free from superstition." A certain amount of superstition is excusable, in fact it seems almost unavoidable, and the above dedication hits a very limited number of individuals, if indeed any at all, if the term is taken in its widest sense. But the particular form of superstition mentioned above will not be encouraged by the medical profession.

THE SMALLPOX EPIDEMIC.

One of the most afflicted places in the United States appears to be the town of Decatur, Neb., with a population of 625, in which, and its near vicinity, there were reported in the health reports of the Marine-Hospital Bureau, 451 cases of smallpox between April 1 and December 14, 1900. It would seem that the antivaccinationists must have had full sway there, at least as regards revaccination. The small mortality—only four in all—reported would indicate a mild type of the disease, what is usually called varioloid, but does not lessen the peculiarity of the situation. It is a pity that so salutary a hygienic resource as vaccination has to be defended at the present time, and the epidemic of smallpox the country is now experiencing may have a good effect in reinstating it in popular favor. With "Christian Science" and Dowieism in the field, and with individual and organized antivaccinationists, there is still "chance for a pretty fight" in some communities before the public health is fully protected by compulsory vaccination.

TOO MUCH QUALIFIED.

It appears from an editorial note in the *Medical Press and Circular* that it is possible to be too well fitted for a medical position in Great Britain. In a recent competition for the position of resident house physician at Cardiff, Wales, the rejected candidate showed higher qualifications than his successful rival. When the selection was challenged it was argued on the part of the medical board who made the choice, "that when a man who was head and shoulders above his commanding officer was appointed to a subordinate post there could be no discipline." In other words, the lack of medical qualification of the superior officer should deprive the institution of the services of any better-qualified employees, the better qualified the worse fitted for the place. The plea that discipline would suffer under such conditions is an admission of executive incompetency or a slur on the loyalty and good faith of the better-qualified candidate, and is contemptible in either case. The fact that the resignation of the medical board was threatened when the directors overruled their rejection of the candidate does not speak well for their professional or scientific morals. Moderation in all things is sometimes good advice, but we never knew it applied especially to professional qualifications before.

A NEW YORK "AUNTIE."

A Brooklyn (N. Y.) homeopath, one Dr. Montague Leverson, is reported to have advised antivaccinationists to shoot down any one trying to vaccinate them or any member of their families. While the individual seems to be a general "auntie," and his influence is lessened to some extent as this fact is commonly appreciated, yet such advice is liable to create trouble when given to ignorant and fanatical people and can not therefore be condoned on any claims of the giver's irresponsibility. A still more serious matter, if true, is his statement publicly made that he had attended thirty cases of smallpox, some of them of the most virulent nature, without reporting them to the board of health. If he did this he is more than a blatant nuisance, he is a living danger to the community and needs the earliest possible attention on the part of the criminal courts. A man who goes about endangering the lives of those who come in contact with him by carrying the infection of a loathsome and fatal disease, who by his concealment of facts prevents the individuals and the community from protecting themselves from the same, and who further does all he can to advocate the neglect of all precautions, is a public enemy. We may perhaps try to consider him a fanatic and therefore only a dangerous fool, but if the criminal law can not touch him the lunacy law should; in any case, his mischief-making should be stopped. There are too many such individuals extant and it is possible that a dose of the criminal law would be the best prophylactic, if not cure, for this kind of lunacy.

THE EPIDEMIC OF INFLUENZA.

The epidemic of influenza that is now spreading over the country rivals, if it does not exceed, in extent and virulence that of 1890 and 1891. Indeed, there are some reasons to think that it may be attended with even a greater increase over the average mortality than was observed in that epidemic. The bacillus was detected by the Chicago Health Department as early as October, but it is only lately that the disease has taken on an especially severe type and it is probable that the same is true in other cities. In New York it was reported that the number of cases during the second week in January exceeded a hundred thousand, and similar reports of its frequency come from other sections all the way from the Atlantic to the Pacific. Cases of grip pneumonia seem to be particularly frequent with this epidemic and a very perceptible figure of direct mortality from influenza is noticeable in the death statistics. The mortality from other diseases following and directly induced or prepared for by influenza can hardly be calculated, but is likely to seriously affect the death figures, especially in the large cities. There will, in all probability, be very much lessening in the dividends of life-insurance companies for the present year on account of the epidemic. The infectiousness of grip does not appear to be thoroughly realized by the public and the chances of exposure are so great that it is possible that if it were, the spread of the disorder would be very little affected. This is no reason, however, why unnecessary chances should be taken and it might be well if people were generally warned that there are possibilities of its communicability. It is of still more importance that they should be instructed as to the risks of exposure during and shortly after an attack. Influenza is the young David among epidemics; while cholera and ordinary pestilences slay their thousands, it slays its tens of thousands through the other disorders it directly favors and incites.

AGGLUTINATION OF THE TUBERCLE BACILLUS BY TUBERCULOUS EXUDATES.

As previously noted in these columns considerable work is being done on the value in diagnosis of the agglutination of the tubercle bacillus by the serum of tuberculous patients. Arloing and Courmont have been interested especially in this subject, and Arloing has developed a special method for obtaining homogeneous cultures of the bacillus suitable for the agglutination test. Recently Courmont[1] published a summary of his observations during the past two years on the agglutination of the tubercle bacillus by various exudates, tuberculous as well as non-tuberculous. He believes that this method of serum diagnosis may be of great practical importance. The reaction is easily and rapidly obtained in the positive cases. Non-tuberculous exudates do not agglutinate the tubercle bacillus when diluted 1:5, while the majority of tuberculous exudates agglutinate the bacillus in dilutions of from 1:5 to 1:20. Exudates in especially virulent cases of tuberculosis sometimes do not give the reaction, and in certain benign cases of tuberculous pleuritis the reaction may be absent in the beginning but it may appear later on toward the period for recovery. There is no constant relationship between the agglutinating power of the blood-serum and the exudate in these cases—the serum may be agglutinating while the exudate is not, and vice versa. The agglutinating properties of tuberculous exudates of experimental origin correspond closely to those observed in human serosities. Hence a serous fluid that gives the reaction at a dilution of 1:5 is in all probability of tuberculous origin; absence of the serum reaction is merely presumptive evidence against tuberculosis. Further studies are desirable in order that material may accumulate from which desirable conclusions may be drawn. A comparative study of the agglutinating powers of the blood-serum and of the pleural tuberculous exudates would probably be of considerable value.

OCCURRENCE OF TYPHOID BACILLI IN EXUDATIVE AND SUPPURATIVE PROCESSES AND IN THE FETUS.

The careful study by modern exact methods of the various inflammatory complications and sequelæ of typhoid fever has shown that bacillus typhosus may be the only micro-organism present. Its etiologic relationship in some of the processes here referred to seems firmly established. Pleurisy, a not common complication of typhoid fever, has been shown to occasionally depend upon the presence of the typhoid bacillus. Gordinier and Lartigau[1] describe a case of this kind. A purulent exudate had to be removed from the right pleural cavity by aspiration on three conditions. This fluid contained the bacillus in pure culture. The third week seems to be the favorite time of onset of typhoid pleuritis, the fluid in the majority of cases being purulent. Hemorrhagic and serofibrinous exudates also occur. Oscar Richardson[2] describes an instance of typhoid abscess of the mammary gland, developing during convalescence from typhoid fever; also a typhoid suppurative periostitis of the tibia under similar circumstances. He furthermore describes typhoid suppurative prostatitis and a pelvic abscess containing typhoid bacilli in two cases which came to autopsy. The typhoid pelvic abscess occurred in a tuberculous woman who had both typhoid and tuberculous ulcers in the intestines and also tuberculous salpingitis. These examples show that the pyogenic activities of the typhoid bacillus may unfold themselves in all possible localities. Richardson also describes two fetuses expelled prematurely in the course of typhoid fever in the mothers; in one typhoid bacilli were found in the liver, in the second they were more widely distributed. In all the cases mentioned in the foregoing the bacilli were agglutinated by typhoid serum in marked dilutions.

THE BACTERIOLOGY OF ACUTE APPENDICITIS.

It has long been the general opinion that the colon bacillus is the essential micro-organism in acute appendicitis. The presence of this bacillus in the intestinal contents and the frequency with which it has been found in acute appendicitis in pure culture have left little room for any other opinion. There has been an idea current for a long time, however, that possibly the colon bacillus is the result of a secondary infection and that its profuse growth rapidly kills off the principal pathogenic bacteria, namely the pyogenic cocci. This idea receives strong support in the recent study of the bacteriology of 100 cases of acute appendicitis by H. C. Low.[1] He made his cultures on Löffler's blood-serum. Agar plates, commonly used by many previous investigators, were found to be unreliable because they did not show cultures of all the organisms present. Streptococcus pyogenes or micrococcus lanceolatus was present in 79 per cent. of the cases, the colon bacillus occurred in 81 per cent. In cases under three days' duration the streptococcus was present in 81 per cent. and the colon bacillus in 62 per cent. In chronic cases the colon bacillus becomes more common, suggesting that its presence means secondary infection. It therefore seems probable that the streptococcus and allied pyogenic organisms are the essential factor in acute appendicular abscess and that the profuse growth of colon bacilli and other intestinal bacilli outgrow the cocci. One reason why other observers have found colon bacilli only in such large percentages of the cases is very likely the exclusive use of agar and bouillon media, which do not permit the growth of streptococci as well, by far, as blood-serum.

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[1] Arch. de Méd. Exp. l'Anat. Path., 1900, xii, 697-732.

[1] American Journal of the Medical Sciences, 1901, cxxi, 43-45.

[2] Boston Journal Society of Medical Sciences, 1900, 116-121.

THE TONSILS AS A PORTAL FOR RHEUMATIC INFECTION.

Although a specific etiologic factor has not yet been isolated, it is generally agreed that acute rheumatism is an infectious disease, and it has of late more especially been pointed out that the tonsils often constitute the portal of entry. Whether any etiologic relation exists between acute, subacute and chronic rheumatism is a matter concerning which more doubt exists. It is possible that acute rheumatism proper, apart from various forms of infective arthritis, is a specific disease of uniform etiology, although it is held by some that it is really a variety of mild, attenuated pyemia. The other varieties of so-called rheumatism, it is suggested, may be due to a modification of the same infective process; or, at times, at least, they may not be rheumatic at all in the specific sense. The tonsils seem to have been the portal of entry not only for the articular infection, but also for myocardial infection; and possibly other apparently cryptogenetic processes owe their origin to this source. Nor is it necessary, as it appears, for the intermediating tonsils to be the seat of macroscopic or even microscopic disease. Further, the tonsillar affection may be some days old, and even recovered from, before the secondary complicating conditions make their appearance. At times the rheumatic manifestations proper may be so slight or transient as not especially to attract attention. Bruck[2] points out that an analogous mechanism may explain some of the cutaneous exanthems believed to be of rheumatic character, such as nodose erythema, multiform exudative erythema, and rheumatic purpura or peliosis, and he reports four cases in which rheumatic purpura was observed in association with tonsillitis. In all, the symptoms of the former followed almost imediately on those of the latter, although the difficulty in swallowing in three was so slight as to be almost unnoticed. In the remaining case the anginal symptoms were pronounced and articular effusion and petechiæ were observed to develop as the former subsided. In two cases there was also articular and muscular pain in the neck, the back and the upper extremities.

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[1] Medical and Surgical Reports of Boston City Hospital, 1900, 11th ser., 173-178.

[2] Berliner Klin. Woch., 1900, No. 45, p. 1005.

THE RELATIONS BETWEEN ACUTE AND CHRONIC ARTICULAR RHEUMATISM.

While arthritis confined to a single joint, or involving a greater or lesser number of joints in varying distribution, may be due to a number of causes, acute articular rheumatism is to be looked on as a specific infectious arthritis whose etiologic factor, however, has not yet been positively identified. In the same way chronic rheumatism may be due to a multiplicity of causes and the question has been raised whether there is really any relation between the acute and the chronic articular disorder. Finally, subacute rheumatism occupies a scarcely less anomalous position. There seems to be a growing belief that often the three disorders named are unrelated, although agreeing clinically in some respects. Weisz,[1] on the other hand, contends not only that the acute and chronic articular forms possess certain features in common, but also that there is no material anatomic, clinical or etiologic distinction between chronic articular rheumatism and deforming arthritis. In the opinion of this observer, the commencement of chronic articular rheumatism can often be traced to an attack of acute polyarthritis. Although bacteria have been found in the joints in cases of both acute and chronic articular rheumatism, no one has, as yet, been agreed on as the exciting agent in either disease. Further, while fever is more commonly present and is more marked in cases of acute than in cases of chronic rheumatism, exceptions to and reversals of this rule occur. In addition, acute rheumatism is the more frequent in the young, chronic rheumatism in the old, and the former are the more susceptible to influences that cause elevation of temperature. As a rule, there is no essential difference between the anatomic alterations attending acute and chronic rheumatism. It appears that in the young, in whom acute rheumatism is the more common, the endocardium especially exhibits a tendency to permanent disease; while in the old, in whom chronic rheumatism is the more common, the articular capsule exhibits such a tendency; and the opinion is expressed that such differences as exist between acute and chronic rheumatism are of degree and not of kind, and are related in part to variations in age. This fact may explain the greater frequency with which chorea is associated with acute rheumatism. Among less common symptoms it is pointed out that cutaneous edema, rheumatic nodules, rheumatic perineuritis, changes in the cartilages and bones, attend both the acute and the chronic disease.

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[1] Deutsches Archiv f. klin. Med., lxviii, H. 1 u. 2, p. 95.

CURABILITY OF SCOLIOSIS.—K. Port says that when the growth of the bones has ceased any attempt at correction of curvature of the spine is absolutely hopeless.

Medical News.

ALABAMA.

DR. J. W. WILLIAMS, of the Wooley Springs region, was shot and seriously wounded December 10, but is now expected to recover.

THE BILL appropriating $25,000 to the Alabama-Bryce Insane Hospital at Tuscaloosa for the purpose of completing the department for negroes at Mount Vernon, referred to in a recent issue of THE JOURNAL, was passed by the senate without a dissenting vote.

SIX MOBILE PHYSICIANS, Drs. Charles A. Mohr, James G. Thomas, Vivian P. Gaines, Rhett Goode, city health officer; Paul J. M. Acker, county health officer, and L. Van Es, memmers of the board of health, at the request of the Mobile city council, have visited New Orleans and investigated the methods employed in that city for the inspection of meats and milk.

REPRESENTATIVE S. J. GRIFFIN, of Cullman county, has introduced in the Legislature a bill which seeks to regulate the practice of medicine in the state. The bill makes it a misdemeanor for any person to treat disease without having a license from a board of medical examiners authorized by law, and fixes the penalty at not less than $100 nor more than $500.

CALIFORNIA.

IN BAKERSFIELD, 8 new cases of smallpox from two foci were discovered December 31.

DR. WILLIAM B. LEWITT has been named as member of the San Francisco Board of Health, vice Dr. Louis Bazet, resigned.

THE CLASS TOWEL in schools has been tabooed by Health Officer Todd, of Oakland, who insists on individual towels for school children.

DR. LELAND E. COFER, U. S. M.-H. Service, who has served as quarantine officer at Port Los Angeles for some time, has been assigned to the charge of the marine-hospital at Honolulu, H. I.

ASSISTANT SURGEON-GENERAL J. H. WHITE, U. S. M.-H. Service, is in San Francisco investigating the charges made by certain newspapers of the city against Quarantine Officer Kinyoun.

DR. H. B. STEHMAN, Los Angeles, has received a handsomely engrossed, morocco bound, copy of resolutions recently adopted by the board of managers of the Presbyterian Hospital, Chicago, in accepting his resignation as superintendent after fourteen years' service in that position.

GEORGIA.

THE DEATH-RATE of Atlanta for 1900 was 14.73 per 1000; for 1899, 17.13 per 1000. Violence caused 8.57 per cent. of the 1930 deaths during the year.

"DR." C. R. KING, of the "New Medicine Company" of Atlanta, has been fined $100 and costs by Judge W. T. Newman, of the United States Court for sending obscene matter through the mails.

COUNCILMAN DR. THOMAS D. LONGINO, Atlanta, proposes to substitute for the present system of seven ward physicians at a salary of $50 per month each, a health officer with the requisite number of assistants.

ILLINOIS.

THE CITY PHYSICIAN of Springfield, Dr. Archie W. Barker, reports that during the last year he had prescribed for more than 1500 patients and had made more than 600 visits.

AN INFERNAL MACHINE addressed to Dr. Sylvester A. Coffman, Hume, was received by his brother a few days ago. Fortunately the mechanism had become disarranged and no explosion occurred when the box was opened.

THE GOVERNOR in his message recommends the enactment of a law making boards of county commissioners boards of health in their respective counties. He also recommends legislation for the establishment of a sanitarium for the treatment of tuberculosis.

SMALLPOX is reported at Fountain Green, Hancock county, 3 cases; Granite City, Madison county, 12 cases with 3 deaths: Collinsville, Madison county, 3 cases; and Bellaire, Crawford county, 1 case. Bloomington is combating an invasion of the disease, which is said to have been brought to the city from Missouri by the colored crew of a work-train.

Chicago.

SECRETARY GAGE has sent to Congress a request for $20,000 to be used for improvements at the United States Marine-Hospital.

BY THE WILL of Mrs. Aurelia R. King, relict of Henry W. King, which was filed for probate, January 7, the Presbyterian Hospital receives $1000.

ABOUT 75 applicants for certificates to practice medicine or midwifery in Illinois were examined by the State Board of Health, January 9, 10, 11 and 12 at the Great Northern Hotel.

THE Commissioner of Health desires to secure reports of the Chicago Health Department for the following years: 1870-3, 1876, 1877, 1879, 1880, 1886, 1889, 1890. Address Dr. Arthur R. Reynolds, Room 2, City Hall, Chicago.

INVESTIGATION by the health department has disclosed that St. Anthony's Hospital, a private institution on Frankfort street, is being operated without a license. It was at this place that two patients died January 3 from asphyxiation by gas.

DR. CHARLES EBERLEIN, of the county asylum at Dunning, was fined $10 for contempt of court by Judge Baker, January 12, because he did not remain in court as a witness. He gave as reason that he had already been away from his duty two days, that he could not longer neglect his patients, and furthermore, that Superintendent Lange had ordered him not to appear. He was released after filing a bond for $500.

THE HEALTH DEPARTMENT states that pneumonia is reported as the cause of 161 out of the total 551 deaths recorded last week—an increase of 32 over the previous week's record and an excess of nearly 43 per cent. over that of the corresponding week last year. Never before in the history of the city has this disease been so prevalent and so fatal. The highest previous reported number of pneumonia deaths was in the week of Feb. 25, 1899. when 140 were recorded. The year 1899 was marked by a serious increase in the mortality from pneumonia. During the five years, 1894 to 1898, inclusive, the average yearly deaths from this disease numbered 2130; in 1899 there were 3438, and in 1900 there were 3389 such deaths—an average increase of 37.6 per cent. and the first twelve days of 1901 show an even higher rate of increase.

AN ANTI-SPITTING ORDINANCE, the second in the history of the city, was passed in the City Council, January 14. It is as follows: Whereas, Spitting on sidewalks, in public places and in public conveyances is detrimental to health, by reason of the danger of spreading contagious disease, and is also a public nuisance which should be abated, therefore, Be it ordained by the City Council of the city of Chicago, that no person shall spit on any public sidewalk or on the floor of any public conveyance, or on the floors of any theater, hall, assembly room or public building; that any person violating the provisions of this ordinance shall on conviction be fined in a sum of not less than $1 nor more than $5; that this ordinance shall be in effect from and after its passage and approval by the mayor.

THE SMALLPOX SITUATION is substantially unchanged. The 19 new cases discovered during the week were, without exception, persons who have never been vaccinated or at some period so remote that the vaccination had lost its protective power. Susceptibility to the contagion of smallpox differs in individuals, and the same is true as to the protection of vaccination. As a rule, a successful vaccination in infancy or early childhood, followed by a successful revaccination at 14 or 15 years of age, confers an absolute immunity from smallpox during life. In a certain number of cases, however, probably 2 per cent., the vaccinal protection is exhausted sooner and the individual is then liable to contract smallpox on exposure. There is no other known method of determining when this occurs or who these susceptibles are except by the test of re-vaccination; if this "takes" in a given individual it is certain that such individual would have "taken" smallpox or varioloid, if exposed to the contagion.

INDIANA.

ELKHART COUNTY pays $100 a year for the care of the sick in its asylum to Dr. Metius M. Eckelmann.

ST. EDWARD'S HOSPITAL, New Albany, is to be paid $625 a year for two years by order of the city council.

SIXTEEN APPLICANTS for licenses to practice medicine appeared before the State Board of Medical Registration and Examination, at Indianapolis, January 8.

DR. I. WRIGHT SHORT has been appointed surgeon of the Lake Shore and Michigan Southern Railroad at Elkhart, vice Dr. William E. Bowman, resigned.

A BILL, inspired by the spread of the "Dowie" heresy in Lake county, will be introduced in the state legislature. It is designed to protect young children from the fanaticism of their parents who may desire to have them treated by "faith-cure" methods. The bill provides that every parent shall employ a registered physician for children under the age of 16, and also provides serious penalties for negligence or violation of the law.

IOWA.

Dr. G. Allen Staples and wife, Dubuque, have returned from Europe.

Dr. Fred W. Powers, Reinbeck, has been appointed a member of the State Board of Health to succeed Dr. Joseph A. Scruggs, Keokuk, whose term has expired.

The Faculty of the medical department of the State University at Iowa City has voted to increase the length of the college term from six to nine months, the new provision to become effective September 1.

The State Board of Health, believing that the wide spread of smallpox in the state is due, in part at least, to the failure of physicians to make diagnoses and to enforce quarantine, has promulgated an order that physicians who fail to comply with the regulations will be cited to appear before the State Board of Medical Examiners and show cause why their certificates should not be revoked for incompetence or wilful violation of the rules of the board.

KENTUCKY.

Dr. Melvin H. Wheeler, Falmouth, had a paralytic seizure, January 1.

Dr. W. E. Clark, Sturgis, has been found guilty of performing criminal abortion, and has been sentenced to imprisonment for ten years.

Louisville.

Dr. William R. Blue, Louisville, has recently returned from a several months' visit to Europe, accompanied by Mrs. Blue.

The Gray Street Infirmary, Louisville, has made large additions to its building, increasing the number of rooms and adding a new operating room.

The medical department of Kentucky University has built two large lecture amphitheaters adjoining the main building, giving needed laboratory room in the main building.

The annual session of the three spring and summer medical schools began January 1 with large classes. The four years' course has not seemed to diminish the attendance at any of the colleges.

The Home for Friendless Women has elected the following medical staff: Dr. Ewing Marshall, chairman; Dr. Henry E. Tuley, secretary, and Drs. Walter F. Boggess, Philip F. Barbour, R. Lindsey Ireland, and Hugh N. Leavell. Drs. Frank C. Simpson and Louis Frank have resigned from the staff.

Dr. J. E. Cashin has been selected by the Louisville General Council special committee on sanitary affairs to make a chemical and bacteriological examination and report whether or not the water-supply of Louisville is contaminated by sewage from the Lakeland Asylum, which flows into the river via Goose Creek. The city will pay $500 for the work.

The apportionment of service at the City Hospital was made January 1: January and February, the faculty of Kentucky University Medical Department; March and April, Hospital College of Medicine; May and June, Kentucky School of Medicine, July and August, non-school members of the profession; September and October, University of Louisville, Medical Department, and November and December, Louisville Medical College.

Dr. Dudley S. Reynolds, Louisville, according to the *Louisville Monthly Journal of Med. and Surgery*, has obtained a verdict of $9,166.66 damages against the Louisville & Nashville railroad for injuries sustained from a lump of coal which fell from a coal car of an express train, as it passed the platform on which he was standing, striking him in the abdomen, just above the pubes, and inflicting injuries from which he is still suffering.

LOUISIANA.

Dr. C. Pearl Munday has been appointed assistant local surgeon of the Southern Pacific Railroad at Westlake.

Dr. Cyriaque J. Gremillion, shot and killed Dr. S. D. Beville, at Alexandria, January 7, as a result of a quarrel over a patient.

James Gibbons, an interne at the Charity Hospital, New Orleans, died January 1 from hemorrhage and shock resulting from a gunshot wound received in a fight with footpads.

The suit against Dr. Oscar Lanng, New Orleans, for $10,106 damages for "negligence and want of skill" whereby Oscar Stern lost the sight of an eye, has been decided in favor of the defendant, the court finding that the loss of sight in the eye was not proved to have resulted from any fault of Dr. Lanng.

In spite of its poor supply of funds from the city budget, the New Orleans Board of Health continues its work. With the help of a temporary 20 per cent. reduction in the official salaries and a residue of $300 from last year's funds, nine inspectors will be retained for the time being on full pay.

MASSACHUSETTS.

Lowell General Hospital is to receive $5000 from the estate of Mrs. Julia A. Simpson, of Lowell, the income from which is to be used for the maintenance of a free bed.

The Boston City Council has approved the following appropriations for the hospital department; $100,000 for a surgical out-patient department building; $120,000 for a new isolation ward and $46,500 for sundry repairs and improvements.

The new building of the Boston Medical Library, which is exceeded in size only by the College of Physicians, Philadelphia, and the New York Academy of Medicine, was dedicated January 12. It is attractive in architecture, and is finely appointed, the cost thus far being $140,000.

MICHIGAN.

Attorney-General Oren has decided that townships must erect contagious-disease hospitals.

Dr. Frederick B. Woolsey shot and seriously wounded A. L. Manly, Peamwell, during a quarrel, January 10.

Smallpox has been stamped out at Saginaw. The last patient has been discharged from the isolation hospital.

A rumor is prevalent that Dr. Jacob S. Shoemaker, of New Lothrop, who left there several months ago for South America, contracted yellow fever at Panama, and died there.

Dr. Victor C. Vaughan, Ann Arbor, has been appointed a member of the State Board of Health, vice Prof. Delos Fall, Albion, resigned, and was present at the meeting, January 11.

During the last three months of 1900, cholera morbus, typhoid fever and scarlet fever were more prevalent, and erysipelas, intermittent fever, remittent fever, pneumonia and whooping-cough less prevalent than usual in the state, as compared with the corresponding periods of the last decade.

MISSISSIPPI.

The Tom Franklin Hospital, connected with the Industrial Institute and College, Columbus, was formally opened December 20.

Dr. Thomas D. Isom, Oxford, the oldest practicing physician in Mississippi, has resigned his position as surgeon of the Illinois Central Railroad.

Dr. Joseph T. Ware, Starkville, shot and killed J. B. Hull, at Ackerman, January 1. Dr. Ware has been bound over under a bond of $2000, to await the action of the grand jury.

Dr. John E. Hunter, secretary of the state board of health, reports that county health officers complain that it is impossible to prevail upon the county boards of supervisors to make adequate provision for handling the smallpox epidemics in certain localities. A report from Holmes county shows a total of 12 deaths out of 18 cases, all of them being negroes.

MISSOURI.

The St. Joseph City Council has authorized the erection of a new isolation hospital.

Dr. David R. Porter, Kansas City, has been appointed a member of the board of pension examiners, vice Dr. Chett McDonald resigned.

Smallpox is reported in more than 100 counties in the state, and the quarantine measures thus far taken have failed to stop the spread of the disease.

Dr. James C. Smith, Agency, has been appointed second assistant at the State Hospital for the Insane, No. 2, St. Joseph, to succeed Dr. Charles B. Simcoe, who resigned December 31, to take charge of the Missouri colony for the feebleminded and epileptic at Marshall.

Dr. Edwin E. Hunter, St. Joseph, assistant city physician, has addressed a communication to the Board of Health urging that all children attending the public schools be vaccinated, as a precautionary measure, because smallpox is epidemic in several neighboring cities.

The State Board of Health has elected Dr. C. B. Elkins, Ozark, president; Dr. J. T. McClanahan, vice-president, and Dr. E. C. McElwee, secretary. Dr. S. C. James, Kansas City, introduced a resolution rescinding the action of the July meeting of the board in Kansas City in 1899, thus making it necessary for the board to recognize the diplomas of all colleges who matriculated students in 1898, and who graduated at the end of the scholastic year of 1901 and to register or license those graduates of any college having a three-year course.

A systematic crusade of compulsory vaccination was begun in Kansas City, January 10, by physicians in the employ of the city. Dr. G. O. Coffin, city physician, has divided the business part of the city into six districts, and a physician has been detained to have charge of each district. Each physician is to make a house-to-house canvass, and every person who can not show a good scar must be inoculated. Smallpox continues to gain headway in spite of the precaution, and more than 100 cases are now said to exist in the city.

AN AMENDMENT to the law regulating the practice of medicine will be introduced by Senator Rollins of St. Louis, which provides that "any person holding himself or herself out to the public as maintaining an office at any given place in this state where he or she will treat the sick, and it shall be shown that said person does not actually, and in person, do so at the place represented; or that he or she is a non-resident of this state and does not in person practice the profession of medicine at the place represented, shall be by the board adjudged guilty of unprofessional and dishonorable conduct in the meaning of the preceding section, and it shall be the duty of the State Board of Health to revoke the certificate or certificates held by any and all such persons."

MARYLAND.

DR. W. E. GRIMM, Patterson's Creek, W. Va., was arrested in Cumberland, January 3, on the charge of practicing medicine in Maryland without license and was bailed for a subsequent hearing. Dr. Grimm was the first physician to attend the smallpox patients at Pinto, Allegheny county, being constantly on the scene when another physician could not be obtained.

Baltimore.

DURING 1900, 10,700 persons died in Baltimore. This represents a mortality of 21.2 per 1000.

THE BOARD OF SUPERVISORS of City Charities has appointed Dr. Lindsay Peters resident physician of the insane department of Bayview Hospital, the city almshouse.

DR. WILLIAM RUFFNER STOVER, resident physician of the Baltimore University Hospital, has resigned to commence private practice, and Dr. William D. Bacon, assistant physician, succeeds him.

THE FLINT CLUB, named in honor of Prof. Austin Flint, held its annual banquet on the evening of January 3, Sheriff John B. Schwatka, M.D., being the presiding officer and toastmaster. The club was organized sixteen years ago by five physicians of this city.

NEBRASKA.

OMAHA has two cases of smallpox, and Lincoln one case.

DECATUR, a town of 600 inhabitants, is reported to have 416 cases of smallpox.

DR. ALEXANDER YOUNG, Arcadia, has been appointed by the governor, assistant physician at the State Hospital for the Insane, Norfolk.

THE SUPREME COURT of the state having decided adversely to the appeal of C. W. Little, a practitioner of osteopathy, he threatens now to carry the case to the United States Supreme Court for redress. His attorneys claim that by the decision the appellant has been deprived of his rights under the fourteenth amendment.

NEW JERSEY.

DR. CHARLES B. SMITH has been appointed surgeon of the Lackawanna railroad at Washington.

NOW THAT the danger of an epidemic of diphtheria is over, the health committee of the Elizabeth City Council boldly refuses to approve the bills for the expense incurred by the board of health in checking the disease.

DR. CHARLES V. BURKE, Newark, who sued Justice James J. Brylan, to recover $210, the amount agreed upon by telephone for an operation on the defendant's brother, was non-suited, the court holding that a telephone agreement was not binding.

IT IS CLAIMED that at the present time there are no funds available for the payment of current expenses of the Burlington County Hospital, Mt. Joy, in consequence of which this institution may be closed; $2000 is needed to continue the work.

THE TRADE COUNCIL of Bridgeton has decided to make a donation of $10,000 to the Bridgeton Hospital. It has been decided to raise this amount by having every member of the federation, mechanics, sales-people, and laborers, give half a day's wages toward the fund.

SCARLET FEVER is prevalent at Vineland, Swainton and Court House, Cape May County, where the schools have been closed and services at the churches have been suspended, and diphtheria at Folsom, where all churches and schools are to remain closed until all danger is over. La grippe is epidemic at Princeton, where 200 cases are reported.

THE FOLLOWING PHYSICIANS were elected by the board of trustees of the Cooper Hospital of Camden, January 8: Medical staff, Drs. William A. Davis, E. L. B. Godfrey, William R. Powell and H. Genet Taylor; surgical staff, Drs. Daniel Strock, Joseph L. Nicholson, Paul M. Mecray, and Edward A. Schellenger; ophthalmologist, Dr. William R. Powell; gynecologists, Drs. Dowling Benjamin and Joseph S. Baer; pathologist, Dr. Walter S. Bray; laryngologist, Dr. Ernest S. Ramsdell. During the past year 644 patients were admitted to the hospital; of this number 63 died and 251 were discharged, cured.

NEW YORK.

HEALTH OFFICER MOORE, of Syracuse, has issued an order for the compulsory vaccination of scholars in the public, private and parochial schools of the city.

ELMIRA has 1500 cases of grip, Binghamton 2000 cases, with 50 of typhoid, Albany 500, and cities and towns throughout the state are equally affected.

THE BEAHAN HOSPITAL has been incorporated at Canandaigua, with a capital stock of $10,000 and the following board of directors: Drs. Albert L. Beahan, Matthew R. Carson, Orlando J. Hallenbeck, John H. Jewett, Frederick E. McClellan and Harry C. Buell.

A MOVEMENT is on foot to establish, through private subscriptions, a sanatorium in the Adirondacks for working women, young married women and children suffering from consumption. A committee has been organized, of which Mrs. George F. Shrady is president. The sanatorium is to be located at Lake Kushaqua.

A NEW LUNACY BILL has been drawn up by Drs. Nelson H. Henry and John H. Girdner for presentation to the legislature, which provides that every judge to whom application is made for the examination of a supposedly insane person, shall designate a referee, and that it shall be the duty of the latter to be present at the examination conducted by the medical experts and certify as to its regularity. The bill also provides that to be eligible for the position of medical examiner in lunacy one must have had at least two years' experience in the care of the insane.

THE STATE FOREST PRESERVE BOARD and the State Board of Health have at last agreed and approved the site already recommended by the trustees for the State Hospital for the Treatment of Incipient Tuberculosis, at Raybrook, three miles southeast of Saranac village, on the side of a hill, where the hospital will be well protected from the prevailing winter winds. There are in all 525 acres, the cost of which to the state has been fixed at $7500. Most of the adjoining property already belongs to the state. There is an ample water-supply, and the place is accessible by the New York Central railroad, and by the Chateaugay branch of the Delaware and Hudson railroad. Only $1000 of the $50,000 appropriated last winter has been expended. It is intended that the hospital shall accommodate 200 patients.

Buffalo.

WORD HAS been received by Dr. Jacob S. Otto, superintendent of the sanitary exhibit of the Pan-American Exposition that all the exhibits made by the United States in the department of hygiene at the Paris Exposition will be sent to Buffalo.

AT THE annual meeting of the active members of the Sisters Hospital the following officers were elected for the ensuing year: Dr. Lawrence G. Hanley, president; Dr. Henry C. Buswell, vice-president, and Dr. Nelson W. Wilson, secretary.

THE CENSORS of the Erie County Medical Society have singled out the case of William Carpenter, who was acquitted by the grand jury of illegally practicing medicine and recommended that in consequence of this acquittal it would be advisable for the society to favor an amendment to the law relating to fines, whereby they shall be paid hereafter to the county treasurer instead of to the treasurer of the society. The censors understood that the existing arrangements concerning fines had been conducive to Carpenter's acquittal. They also asked for authority to employ detectives to continue the work of collecting evidence in the cases of illegal practitioners.

New York City.

A TUBERCULOUS PAVILION, capable of accommodating 200 patients, was opened at Bellevue Hospital, January 1. It is in charge of three graduate nurses and the house staff.

DR. HERMANN KNAPP has given to the New York Ophthalmic and Aural Institute, with which he has been long prominently connected, an adjoining plot of valuable land, with a commodious building.

AT THE annual meeting of the Beth Israel Hospital it was stated that the new building is nearly completed, and that when finished it will represent an expenditure of about $200,000. The total donations to the building fund so far amount to $40,000. During the past year 531 patients have been received into the hospital, and 282 have been refused for lack of accommodation.

THE FRENCH CONSUL-GENERAL has returned from Europe after making application to the French government for $50,000 to assist in providing more extensive accommodations in the French Hospital of this city. The changes contemplated will cost about $200,000, the hospital now having room for only 60 patients. The French government has paid a certain amount annually to the hospital, but the increase in the French population has made the proposed changes necessary.

The monthly bulletin of the State Board of Health shows that there are outbreaks of smallpox in 17 places in the State. There had been no smallpox for three months prior to the close of November, and then a traveling troupe of colored minstrels exhibited at eight places in the eastern part of the state before it was discovered that there was smallpox among them. They touched the locality in which the smallpox made its appearance recently in New York City, and smallpox followed in their trail at Albany, Schenectady and Gloversville.

Nine more cases of smallpox have developed in the city in the past week. Two of them were inmates of a lodging-house, and were the only ones there who had positively refused to allow the public vaccinators to vaccinate them. One of these, a man named Joyce, has probably been the means of spreading the disease quite extensively, for, he says that feeling ill and not knowing what ailed him, he went to Bellevue Hospital early in the morning, and was told that he had erysipelas. After receiving some medicine he was allowed to depart, and after wandering around for some time he walked across the Brooklyn bridge and into the office of the department of charities.

Grip is very prevalent, and it is the opinion of the health authorities that a severe epidemic of this disease is imminent. Reports show that since the first death from grip was reported, Nov. 10, 1900, there has been a steady weekly increase, the total number of deaths to date being 62. Including the first and very fatal epidemic of grip, which occurred in the winter of 1890-91 there have been altogether up to the present time 3796 deaths from this disease in the Borough of Manhattan. At the present time it is estimated that not less than 4 per cent. of the population is suffering from grip, and the records of the police department show that about 10 per cent. of the police force is ill, for the most part with the grip. For the week ending Jan. 6, 1900, there were 8 deaths from the grip, while the corresponding week this year showed 36 deaths from grip in Manhattan and Brooklyn. Since that date more than 25 deaths from grip have already been reported.

OHIO.

Dr. Frank S. Merwin, Youngstown, is seriously ill with typhoid fever.

Dr. Seth W. Beckwith, Toledo, ex-coroner of Lucas county, is seriously ill.

Dr. Byron C. Hendershott, New Philadelphia, has been appointed surgeon of the C. & M. railroad.

Four members of the staff of the Mahoning Valley Hospital at Youngstown, Drs. Albert L. King, Charles D. Hauser, Albert E. Warren and Charles H. Slosson, have resigned, no reason being assigned.

The State Board of Medical Examination and Registration held its annual meeting at Columbus, January 3, granted certificates to 7 applicants and elected Dr. Nathaniel R. Coleman, Columbus, president; Dr. H. E. Beebe, Sidney, vice-president; Dr. Frank Winders, Columbus, secretary, and Dr. D. Williams, Columbus, treasurer.

PENNSYLVANIA.

The trustees of the Pennsylvania Medical College at Chester, have commenced the erection of a hospital for the use of the college.

Dr. Oliver J. Bennett, Allegheny, has been appointed physician to the Western Penitentiary, vice Dr. David N. Rankin, deceased.

The sixth accounting of the estate of the late Asa Packer has been rendered and shows that the sum of $300,000 has been paid St. Luke's Hospital, Bethlehem.

A bill is to be introduced in the state legislature, providing for the appropriation of $60,000 for improvements at the Allegheny General Hospital. The improvements contemplate the rebuilding, enlarging and modernizing of the institution.

Senator Wentz and Assemblymen Barker, McGlathery and DeHaven have visited the State Hospital for the Insane and the Charity Hospital, Norristown, for the purpose of determining the needs of these institutions. The former has asked for an appropriation from the state of $90,000, and the latter for $35,000.

The results obtained by applicants at the last examination of the Pennsylvania State Board of Medical Examiners, held on December 17, 18 and 19, have been forwarded to the Secretary of Internal Affairs at Harrisburg, and shows that out of 80 applicants for license to practise medicine 41 were qualified and 39 rejected. It is said that in past years the number of failures was not much above 15 per cent., and the rate of failures reported above means a higher standard imposed upon the candidate than was formerly the case.

Philadelphia.

Dr. Henry Cattell, who for several years has been pathologist to the Pennsylvania Hospital, has resigned.

Dr. John W. Kroskey, attending surgeon to the Wills Eye Hospital, has resigned and Dr. McCluney Radcliffe has been appointed his successor.

On account of a death from smallpox in the neighborhood of Forty-first street and Girard avenue, considerable anxiety is shown lest a further spread of the disease will ensue. As a preventive measure a large number of persons in that locality have been vaccinated and the police have been called in to guard the infected house. This was the only case of the disease in the city.

The annual meeting of the Germantown Hospital was held January 12, and the following officers were elected: Elliston P. Morris, president; Thomas B. Homey. secretary; William H. Haines, treasurer; Williston P. Morris, William H. Haines. Frank J. Firth, Frances Stokes, Reed A. Williams, Jr., Alexander W. Wister, William H. Scott, Thomas B. Homer, Dr. Norton Downs, Thomas H. Shoemaker, Henry L. Davis. N. Penrose Allen. Edward H. Vance. Dr. George Woodward and James Mape Dodge, board of managers.

Owing to the existence of a number of cases of smallpox in New York the Philadelphia Board of Health is taking unusual precautions to prevent its transmission here.

About the last week of December there was a great increase in the number of cases of "colds" in this city, which was later followed by an epidemic of grippe In private practice and at the public dispensaries an increase in this disease has been noted. The weather conditions at the time of the onset of the malady did not seem to be what might be termed favorable. since the days were clear, and the temperature did not change to any marked degree. An increase in the number of cases of pneumonia has been also observed.

WASHINGTON.

Dr. Elmer E. Heg has been appointed a member of the board of health of Seattle.

Dr. Cal. M. Boswell, the pioneer physician of Colfax, was serious injured in a runaway accident recently.

Dr. Thomas E. Hoxie, Spangle, has been appointed assistant physician at the Eastern Hospital for the Insane at Medical Lake.

Dr. George W. Ingham, Olympia, has been appointed a member of the State Board of Medical Examiners.

The State Board of Medical Examiners met at Seattle, January 2 and 3, and examined 52 men and 6 women applicants for license to practice medicine in the state.

GENERAL.

Dr. Eduardo Wilde, Argentine minister at Washington, will be a delegate to the Pan-American Medical Congress at Havana.

The physicians at Havana tendered a banquet recently to Dr. Carlos Finlay in token of congratulation that his theory of the transmissibility of yellow fever by the mosquito, which he has been proclaiming for many years in the face of opposition and ridicule, has at last received scientific recognition and acceptance.

Dr. W. C. Gorgas, chief sanitary officer of Havana, states that a continuous improvement in the health of Havana is taking place. The little yellow fever they had in December was among the recently arrived Spanish immigrants. The general death-rate for December was the lowest for that month during the decade. In the report of the Marine-Hospital Service for the week ended Jan. 11, 1901, we find no deaths nor cases of yellow fever in Havana, 1 death at Cienfuegos, and 1 case at Matanzas, Cuba. Smallpox appears to be entirely absent.

The following named asst.-surgeons in the army have been ordered to San Francisco for assignment to duty with troops destined to the Philippines: John H. Allen, Washington, D. C.; H. D. Brown, Denver, Colo.; W. F. Graham, Summerville, S. C.; Lawrence Mac McEvoi, St. Louis, Mo.; F. H. Mills, Buffalo, N. Y.; Joseph Pettyjohn, Augusta, Ga.; R. J. Price, Wilmington, N. C.; J. W. Reddy, Boston, Mass.; Shannon Richmond, St. Joseph, Mo.; A. R. Schier, Burlington, Ia.; A. T. Short, Montrose, Colo.; Robert S. Spilman, Washington. D. C., and T. H. Weisenburg, Philadelphia, Pa.

DISPUTE OVER PHILIPPINE MEDICAL COLLEGE.

The decision of the Philippine Commission in the San Jose Medical College case unanimously refers the settlement of the questions involved to the courts and provides trustees who, with the assistance of the attorney-general of the Philippines, will inaugurate and prosecute the litigation. The sum of $5000 is the appropriation for the expenses of the suit. A bill has been passed carrying out the terms of the decision. It appoints five physicians as trustees, who are required to begin suit within a month in the supreme court of the Philippines to determine whether the ownership of the college is in the church or the government. The Dominican rector of St. Thomas' University and Archbishop Chappelle are required to defend the suit on the part of the church. Judge Taft's opinion says: "A case involving the construction of the Treaty of Paris and the effect upon public trusts of the transfer of sovereignty from a kingdom in which church and state are united and inseparable to one in which church and state are entirely separated is of such import that it ought to be submitted to the highest tribunal."

TO PREVENT SMALLPOX.

The spread of smallpox in the logging regions of Northern Wisconsin and Minnesota has resulted in a meeting in Duluth of members of boards of health of both states, with Secretary Bracken, of the Minnesota State Board of Health. The purpose was to decide, if possible, upon some uniform action best calculated to prevent the spread of the disease. It was decided that the only sure means of stamping out the disease is to encourage vaccination, force quarantine regulations and provide isolated hospitals at such points as may seem desirable under the circumstances. The shooting of the young woodsman at a lumber camp near Sparta, Minn., recently while trying to escape from a smallpox quarantine, had much to do with stirring the people to action. A number of the loggers who have camps on the Mesaba range were invited to attend the meeting, and they agreed to endeavor to have the men in their respective camps vaccinated. The physicians are working on some plan for allowing men in quarantine to work under special conditions. They would, under the plan proposed, be allowed to work during the quarantine period isolated from the other men in camp. The counties in which it is necessary to go to a great expense to restrict and stamp out the contagious disease will be asked to assist the towns in which the disease is being coped with.

PAN-AMERICAN MEDICAL CONGRESS.

Up to the present time—January 8—the best rates we have been able to secure for delegates attending the above congress are the regular winter tourist rates from all parts of the country to Havana and return, which from New York City is $98; Philadelphia, $94; Baltimore, $90; Washington, $88; correspondingly low rates from all other points in the United States. If my continued efforts result in lower rates, due advice will be given through THE JOURNAL. Delegates will have the option of traveling through Jacksonville, thence Florida East Coast Railway to Miami, and steamer to Havana and return; or through Jacksonville, thence Plant System to Port Tampa, and steamer to Havana and return. Steamers sail from Miami Sundays and Wednesdays at 11 p. m., arriving Havana 3 p. m. the following day. Steamers leave Port Tampa Tuesdays, Fridays and Sundays at 6.30 a. m., arriving Havana at 8 o'clock, the following morning. Inasmuch as the sessions of the congress open in Havana February 4, at 10 a. m., it seems that the route through Port Tampa, and the steamer leaving that port at 6.30 a. m., February 3, arriving Havana 8 o'clock following morning, is the best for the delegates to use. Having in mind, therefore, the comforts of the delegates, I would suggest that they arrange their trip so as to take the steamer leaving Port Tampa, 6.30 a. m., February 3. The train leaving New York at 3.25 p. m., February 1, over Pennsylvania Railroad; Philadelphia, 6.05 p. m.; Baltimore 8.27 p. m., and Washington 9:55 p. m., thence over Southern Railway through Charlotte, Columbia, Savannah and Jacksonville, which carries through sleeping cars to Port Tampa, and has dining car service, arriving Port Tampa 6. a. m., February 3, connecting with the 6.30 a. m. steamer for Havana. Through sleeping cars are also operated from Chicago and Cincinnati, through Chattanooga, Atlanta and Jacksonville, thence Plant System to Port Tampa, making the above connection. The steamer connection leaving Miami Sunday, February 3, reaches Port Tampa at 3 o'clock the following afternoon—too late for the opening session of the congress. The steamer *Seguranza* of the Ward Line leaves New York, January 30, arriving in Cuba on February 3, the day before the beginning of the congress. The new Ward Line steamer *Morro Castle*, holding 135 cabin passengers, leaves Havana on February 9, reaching New York February 11. The round trip is $70. Any one going via this route will be absent from New York twelve days. As these pages are going to press, the I. C. R.R., C. & N. W. Ry., and C. & E. I. R.R. companies consent to a reduction on rate to Havana and return; from Chicago, $86, and from other points in proportion.

FOREIGN.

SMALLPOX in Paris is gradually disappearing; there were 58 cases on January 5, compared with 105 the week previous.

PROF. V. SNEGUIREFF, of Moscow, completed thirty years of professional activity December 1. The anniversary was celebrated by his friends in many ways, among them being the founding of some scholarships and prizes in his name by funds collected by his pupils.

THE recently remodeled ophthalmic clinic at the Berlin university was reopened December 12, and bronze busts of Albrecht von Graefe and Carl Schweigger were unveiled with much ceremony.

DR. VELDE, the German physician at Pekin during the siege of the legations, has been presented with the cross of the French legion of honor, as also has his French companion, Dr. Matignon.

THE SAXON MINISTRY has issued a decree requesting physicians, boarding-house keepers and undertakers to report all cases of pulmonary tuberculosis. The decree requires also the disinfection of rooms in which persons die from that disease.

THE *Tidsskrift f. d. Norske Laegefor.* announces that a marble portrait bust is to be presented to the great Norwegian leprologist, Dr. G. Arnauer Hansen, on his 60th birthday, July 29, 1901.

A MONUMENT is to be erected by subscription to the eminent French surgeon, L. Ollier, whose death in his 76th year was recently mentioned in these columns. His international fame is chiefly due to his demonstration that experimentation on living animals is the most puissant element of progress in scientific surgery. He practically revolutionized conservative surgery by his studies of the growth and regeneration of bones and the artificial production of bone tissue by the preservation and transplantation of periosteum. Subscriptions for the monument are received by the French lay press and also by the *Revue de Chirurgie*, Paris, of which he was editor-in-chief, although he resided and practiced in Lyons.

DR. PIERRE CARL-EDOUARD POTAIN, one of the most prominent and popular physicians of Paris, died suddenly on the night of January 7, after pursuing his usual day's work and dining quietly with a few friends. He had long been professor of internal medicine and his occasional contributions to medical literature on the heart and other branches of internal medicine were accepted by authority, but his extensive practice interfered with much literary work. He was one of the founders of the *Bibliographia Medica*. His extreme kindness and gentleness won for him in the hospitals the title of "Saint Potain."

CANADA.

DR. T. M. FENWICK, Kingston, died January 3 as a result of blood poisoning engendered through paring a corn. He was graduated from Queen's University in 1866.

DRS. G. S. RYERSON and E. E. King, Toronto, succeeded in locating by the aid of a skiagraph and extracted a piece of steel chisel from a workman's eye, at the inner side of the optic nerve.

DURING the past summer a Philadelphia gentleman was taken ill while touring the Thousand Islands, and was brought to the Brockville General Hospital. He recovered, and the other day he showed his appreciation of the treatment received at the hospital by forwarding a check for $1000. The money will be used for the establishment of a nurse's home and children's ward in connection with the hospital.

THE *Bulletin Méd. de Quebec* publishes the following communication: "A little sister to the Quebec Medical Society has just been born in Portneuf county. The accouchement was long, tedious and difficult. Nine physicians were present when the child was born. It is feeble and delicate, but apparently viable. For fear of accidents it was baptized at once: 'The Medical Society of Portneuf County,' with Dr. G. Paquin as the godfather."

NATIONAL CONFERENCE ON CONSUMPTION.

The governor general and the Countess of Minto are calling a meeting in Ottawa of representative medical men and laymen from all parts of Canada for the purpose of discussing measures for limiting the ravages of consumption in the Dominion. Among other projects to be discussed is the formation of a

Dominion Association with branches in each city or province for dealing with the question; then grants by the Dominion government will also be taken up for providing sanatoria or suitable homes for the cure of persons afflicted with tuberculosis. All the provincial governments will be asked to send representatives, as well as the mayors of the larger cities, and the secretaries of the provincial boards of health. Canada is losing eight or nine thousand lives every year by consumption; and according to the general accepted estimate of statisticians, the country is paying a cash tribute of eight or nine million dollars to tuberculosis.

M'GILL'S ANNUAL LECTURE.

"A Century of Chemistry" was the title of the annual lecture at McGill, which this year was recently delivered by Dr. J. Wallace Walker. He traced the development of chemistry during the past one hundred years. At the beginning of the nineteenth century a controversy was going on as to the importance of the laws of equivalent weights. When experiment finally confirmed this law, the science took a position second to none in the world of science. Dalton's great atomic theory was also enunciated at that time and with slight modifications remains the same at the present day. The biological world had also supplied the chemist with a store of material; and the substances obtained as products of vital processes were referred to. Heating by chemistry was dealt with and one of the interesting features of the lecture was the reference to the work of a Canadian, Willson, in this line. Willson has brought on the market a new product of great value—calcium carbide. This is a gray stony-looking substance made from lime and charcoal, and possesses the remarkable property of reacting chemically with water and giving off acetylene gas, which burns with a very brilliant flame.

MEDICAL DEFENSE.

The St. Francis District Medical Association of the Eastern Townships of the Province of Quebec has recently elected the following officers: President, Dr. Brown, Richmond; vice-president, Dr. Stevenson, Coaticook; second vice-president, Dr. Rioux, Sherbrooke; secretary-treasurer, Dr. W. Russell Thomas, Lennoxville. These officers have been elected *pro tempore* by the parent association, and are to conduct the medical defense part of the association. This union is now endeavoring to gain the support of the medical profession throughout the length and breadth of Canada. Dr. Roddick, M.P., is being approached to secure a Dominion incorporation for it; and physicians will be admitted from every province at a small annual fee. The objects of this defense association are to support and protect the character and interests of medical practitioners practicing in the Dominion of Canada; to promote honorable practice, and to suppress or prosecute unauthorized practitioners; to advise or defend or assist in defending members of the union in cases where proceedings involving questions of professional principle or otherwise are brought against them; and to originate legislation likely to benefit the medical profession. A determined effort will be made to acquire legal powers for these objects.

LONDON LETTER.

AN IMPERIAL PHARMACOPEIA.

The general medical council who issue the British Pharmacopeia have taken a step which is not only of medical but political importance. They have converted the British into an imperial pharmacopeia. At one time there were three pharmacopeias in the United Kingdom which were issued by the Colleges of Physicians of London, Edinburgh and Glasgow respectively. They each constituted a legal standard, according to which, in the corresponding division of the kingdom, all preparations had to be made. Obviously considerable inconvenience arose when, say, an English pharmacist had to make up a Scotch prescription, for the preparation varied in strength in the different countries. The formation of the British Pharmacopeia by the fusion of the three local pharmacopeias was thus a great reform. The council usually issue every 10 years a new edition of the Pharmacopeias introducing new drugs and preparations of sufficient importance and rejecting others, which have fallen into desuetude. Now, many medicinal plants and other substances are considered valuable in the colonies and India, but are unknown in England. These are often equivalent to substances in the British Pharmacopeia which are very expensive or difficult to obtain in the particular locality. For example, in India there are several native vegetable oils which may be used in place of olive-oil, and there are plants which can replace others which it would be expensive to import. Hence the importance of ensuring that these substances should be prepared in a proper manner and made to conform to a uniform standard. A committee has been engaged with the assistance of the Indian and Colonial governments in procuring from all parts of the empire the necessary information from medical practitioners and scientific societies. The first result has been the publication of an Indian and Colonial addendum containing the necessary details with regard to plants or substances which in the country yielding them may be employed as stubstitutes for others in the British Pharmacopeia.

LONDON'S VITAL STATISTICS—THE LOWEST BIRTH-RATE ON RECORD.

A declining birth-rate which furnishes a chronic theme for lamentation to French politicians, appears to be becoming a phenomenon of every civilized nation. The report of the medical officer of health for London for the year 1899, which has just been issued, shows that a diminished birth-rate is a feature not only of London but of the whole of England and Wales. The number of births in London in the year 1899 was 133,585, giving a birth-rate of 29.3 per 1000, the lowest on record. From 1851 till 1860 the birth-rate was 33.6; 1861-70, 35.4; 1871-80, 35.4; 1881-90, 33.2; 1897, 30; 1898, 29.4; 1899, 29.3. Thus an almost steady decline is shown in the last 50 years. The marriage-rate during this period shows an almost parallel decline. From 20.6 in 1851-60 it has steadily fallen to 17 in 1894; it then rose slightly, reaching 18.7 in 1898, but again fell to 18.4 in 1899. The death-rate in the last half century has also shown a similar diminution. In the successive decennial periods from 1841 till 1890 the death-rates were 24.8, 23.7, 24.4, 22.5, and 20.5. In the successive years from 1891 till 1899 they were 21, 20.3, 21, 17.4, 19.5, 18.1, 17.7, 18.2, and 19.3.

NEPHRITIS WITHOUT ALBUMINURIA.

At the Clinical Society Dr. W. P. Herringham described a case of this rare condition, the first on record, in which the existence of nephritis without albuminuria in the absence of scarlatina of nephritis has been proved by necropsy. Several cases are recorded of nephritis without albuminuria following scarlatina, and the existence of albuminuria without nephritis in the absence of scarlatina has been suspected. A boy aged 4 was admitted to hospital for diarrhea and vomiting on March 29. After he was supposed to be cured he was sent to a convalescent home. The urine was examined three times and found normal. There was no history of scarlatina. From May 5 till July 14 he was in good health at the convalescent home and was under constant medical supervision. On July 14 dropsy began in the feet and spread to the legs. The urine was not albuminous. He was sent back to the hospital and for the next six weeks he looked a picture of subacute nephritis, but there was never albumin in the urine, which was exceedingly scanty. No formed elements were ever visible under the microscope. On August 29, he died. At the necropsy the viscera, including the kidneys, appeared natural. But microscopic examination of the kidneys showed cloudy swelling in a few of the convoluted tubes, and albuminous plugs in many; in some of the collecting tubes similar plugs were seen. An exudation apparently of serum or albumin was found in almost all the glomeruli.

INDENTATIONS IN THE SKULL OF THE NEWBORN.

At the Edinburgh Obstetrical Society Dr. Munro Kerr, of Glasgow, read an important paper on this subject and described a new method for the relief of the condition. The subject has received very little attention in this country, but in France it has been the subject of numerous treatises ever since Ambrose Paré first described the deformity. Indentations of the fetal skull may be spoon- or furrow-shaped. The latter are much the less serious and seldom cause much immediate trouble. Dr. Kerr, therefore, considered exclusively the spoon-shaped depressions. The injury is usually situated on one or other of the parietal or frontal bones near the anterior fontanelle. It occurs with few exceptions when there is deformity of the maternal pelvis, and generally in cases of flat rachitic pelves. The extent of the deformity need not be extreme; most commonly it is just sufficient to cause a moderate degree of obstruction to the passage of the head. In the great majority of the reported cases delivery was completed by traction either on the head by forceps or on the trunks in breech presentations. But in a small proportion labor terminated spontaneously. When deformity is present the indentation is usually caused by the head being pressed against the projecting sacral promontory. Occasionally the anterior pelvic wall, an undue prominence of the iliopectineal eminence, an osseous tumor, is the cause. Defective ossification of the fetal skull predisposes to it. In most cases the indentations disappear in a week or two and give rise to no symptoms. In some, permanent depressions result which may produce no disturbance or may give rise to minor nervous storms. Some cases terminate fatally.

with twitchings, convulsions and paralysis. In others the child is born asphyxiated and dies unless the depression is removed. Schroeder in 65 cases found that 34 per cent. of the infants were stillborn and that 15 per cent. subsequently died. In treatment air-pumps and cupping glasses have been advocated. Trephining has been successfully performed. But surgical influence is not always practicable. Dr. Kerr has treated three cases successfully by the following method. The fetal bones are very resilient and by experiments he found that artificially produced depressions can be raised by firm antero-posterior compression of the head. On the living child the indentation came out with a sound as when a dent in a felt hat is removed. In one case the seriously impaired respiration was at once relieved.

Correspondence.

Prof. Loeb and Newspaper Sensationalism.

CHICAGO, Jan. 12, 1901.

To the Editor: In view of the fact that my name has been used in a number of sensational articles which have appeared in the daily papers, I wish to state that none of these articles were authorized by me. The results of my experiments have been published exclusively in scientific journals, and I am only responsible for such statements as are expressed in my scientific publications.

JACQUES LOEB,
University of Chicago.

Book Notices.

TREATMENT OF FRACTURES. By Charles Locke Scudder, M.D., Surgeon to the Massachusetts General Hospital. Assisted by Frederick J. Cotton, M. D. With 585 Illustrations. Cloth; pp. 433. Price, $4.50. Philadelphia: W. B. Saunders & Co. 1900.

Although the title of this work is "The Treatment of Fractures," it will be found that the text is by no means so limited as the title, but deals in general with fractures, as the causation, pathology, diagnosis and prognosis are all discussed and often more extensively than is the treatment.

In the opening chapter on fractures of the skull are found a number of short, but valuable points on head injuries in general and on injuries to the brain complicating fractures of the bone. Under the treatment of skull fractures, he says: "In fracture of the base with pronounced symptoms, drainage of the fossa involved, whether anterior, middle or posterior, should be considered." No mention is made, however, of the symptoms which would warrant or indicate such a procedure, nor of the method of executing it nor of the probabilities of it doing any good if attempted. The danger in these cases lies in the injury done to the brain tissue and not in the fact that the fracture extends to the base of he skull.

Under the examination of injuries of the elbow, he says: "In the absence of positive signs of dislocation, subluxation and fracture, the lesion is a sprain or contusion. In the absence of positive signs of dislocation and radical subluxation a fracture will be present." The latter statement, particularly, is not only peculiar reasoning, but also incorrect. In fracture of both bones of the forearm the danger of lateral compression of the bones by the immediate application of a roller plaster cast is too great to advise this as the usual mode of treatment. In fractures of the upper third of the radius the advisability of dressing the arm in supination to prevent the loss of this motion is not mentioned.

The work is voluminously illustrated, and this fact adds materially to its value. The illustrations frequently show conditions much better than the text describes them. A chapter on "The Roentgen Ray and Its Relations to Fractures," by E. A. Codman, is excellent. It deals with the practical value of the rays in the diagnosis of fractures, the interpretation of skiagraphs and the errors of judgment into which one may be led by them. A chapter on the ambulatory treatment of fractures, which is somewhat historical in character, closes the work. While there are many good points in the work, it can not be said that the subject of fractures has been thoroughly covered, not even in treatment. The publisher's work has been unusually well done.

APPENDICITIS AND ITS SURGICAL TREATMENT: *With a Report of One Hundred and Eighty-five Cases.* By Herman Mynter, M. D. (Copenhagen), Professor of Clinical Surgery in University of Buffalo, Buffalo, N. Y. Third revised edition. Cloth. Pp. 231. Price. $2.00. Philadelphia: J. B. Lippincott Co. 1900.

This monograph was originally submitted to the University of Copenhagen in order to obtain the degree of Doctor of Medicine. It was accepted by the university in 1897, and was published in this country in 1898 as the first edition. The second edition was partly burned in the fire which destroyed the Lippincott Publishing Company in 1899. This, the third edition, has been revised and considerably enlarged by the addition of new material. The work is largely historical in character. The gradual development of modern ideas of appendicitis is traced from the earliest records. As the major portion of the work is made up of extracts from the opinions of others, it can not be criticised as coming from the author.

The author's statement, however, that he does "not consider cases of appendicitis with strictures, dilatations, coprolites, hydrops, ulcerations and the chronic and obliterating forms necessarily infectious" is not in accord with modern views of inflammation. An appendicitis not due to the action of microbes, which is the meaning of infectious here, can not be admitted.

The author's attempt to classify the cases pathologically into simple catarrhal appendicitis, ulcerative appendicitis and infectious appendicitis is open to the same objection.

Under his clinical classification he separates gangrenous appendicitis without perforation from gangrenous appendicitis with perforation. As every case of gangrenous appendicitis is certain to perforate if given time enough, there is not sufficient ground for subdivision of gangrenous cases on this basis.

Under treatment, the methods adopted by the leading men of Europe and America are considered. Much of this already has only an historical value, as opinions in regard to the treatment of appendicitis have changed so rapidly during the past few years. The author's views are decidedly in favor of early operation in acute cases and will, therefore, meet with the approval of all experienced surgeons.

Regarding chronic appendicitis, he states (page 117): "An operation is not indicated unless we feel the thickened and swollen appendix." That this is not a sound rule to follow the author himself makes very clear, for a few lines farther down he says: "I have, nevertheless, in several cases, where I was sure of feeling a hard, indurated appendix extending downward, found it in a diametrically opposite direction. What I felt was the flat tendon of the psoas minor muscle."

The work is an excellent review of the literature of the subject, and an extensive bibliography is appended. There are no illustrations.

ULCERS OF THE STOMACH AND DUODENUM AND ITS CONSEQUENCES. By Samuel Fenwick, M.D., F.R.C.P., Consulting Physician to the London Hospital, and W. Soltan Fenwick, M.D., M.R.C.P., Senior Physician to the London Temperance Hospital. Cloth; pp. 392. Price, $3.50. Philadelphia: P. Blakiston's Son & Co. 1900.

This volume is divided into four parts, the first dealing with the pathology and anatomy of gastric and duodenal ulcer, while the other three are devoted to the clinical aspects of the disease and its sequelæ. The data as regards the morbid anatomy were obtained from the results of over 1000 cases of gastric ulcer, and between 100 and 200 of ulcer of the duodenum taken exclusively from hospital records. The authors find the disease may occur either idiopathically or follow the course of some other malady. In the former case it is most common in young women, while in the latter it is not infrequently the cause of death in certain infective complaints in connection with heart and liver diseases. The book is very fully illustrated, especially in its earlier portion, and is an excellent monograph of its special subject. The illustrations are largely

Dominion Association with branches in each city or province for dealing with the question; then grants by the Dominion government will also be taken up for providing sanatoria or suitable homes for the cure of persons afflicted with tuberculosis. All the provincial governments will be asked to send representatives, as well as the mayors of the larger cities, and the secretaries of the provincial boards of health. Canada is losing eight or nine thousand lives every year by consumption; and according to the general accepted estimate of statisticians, the country is paying a cash tribute of eight or nine million dollars to tuberculosis.

M'GILL'S ANNUAL LECTURE.

"A Century of Chemistry" was the title of the annual lecture at McGill, which this year was recently delivered by Dr. J. Wallace Walker. He traced the development of chemistry during the past one hundred years. At the beginning of the nineteenth century a controversy was going on as to the importance of the laws of equivalent weights. When experiment finally confirmed this law, the science took a position second to none in the world of science. Dalton's great atomic theory was also enunciated at that time and with slight modifications remains the same at the present day. The biological world had also supplied the chemist with a store of material; and the substances obtained as products of vital processes were referred to. Heating by chemistry was dealt with and one of the interesting features of the lecture was the reference to the work of a Canadian, Willson, in this line. Willson has brought on the market a new product of great value—calcium carbide. This is a gray stony-looking substance made from lime and charcoal, and possesses the remarkable property of reacting chemically with water and giving off acetylene gas, which burns with a very brilliant flame.

MEDICAL DEFENSE.

The St. Francis District Medical Association of the Eastern Townships of the Province of Quebec has recently elected the following officers: President, Dr. Brown, Richmond; vice-president, Dr. Stevenson, Coaticook; second vice-president, Dr. Rioux, Sherbrooke; secretary-treasurer, Dr. W. Russell Thomas, Lennoxville. These officers have been elected *pro tempore* by the parent association, and are to conduct the medical defense part of the association. This union is now endeavoring to gain the support of the medical profession throughout the length and breadth of Canada. Dr. Roddick, M.P., is being approached to secure a Dominion incorporation for it; and physicians will be admitted from every province at a small annual fee. The objects of this defense association are to support and protect the character and interests of medical practitioners practicing in the Dominion of Canada; to promote honorable practice, and to suppress or prosecute unauthorized practitioners; to advise or defend or assist in defending members of the union in cases where proceedings involving questions of professional principle or otherwise are brought against them; and to originate legislation likely to benefit the medical profession. A determined effort will be made to acquire legal powers for these objects.

LONDON LETTER.

AN IMPERIAL PHARMACOPEIA.

The general medical council who issue the British Pharmacopeia have taken a step which is not only of medical but political importance. They have converted the British into an imperial pharmacopeia. At one time there were three pharmacopeias in the United Kingdom which were issued by the Colleges of Physicians of London, Edinburgh and Glasgow respectively. They each constituted a legal standard, according to which, in the corresponding division of the kingdom, all preparations had to be made. Obviously considerable inconvenience arose when, say, an English pharmacist had to make up a Scotch prescription, for the preparation varied in strength in the different countries. The formation of the British Pharmacopeia by the fusion of the three local pharmacopeias was thus a great reform. The council usually issue every 10 years a new edition of the Pharmacopeias introducing new drugs and preparations of sufficient importance and rejecting others, which have fallen into desuetude. Now, many medicinal plants and other substances are considered valuable in the colonies and India, but are unknown in England. These are often equivalent to substances in the British Pharmacopeia which are very expensive or difficult to obtain in the particular locality. For example, in India there are several native vegetable oils which may be used in place of olive-oil, and there are plants which can replace others which it would be expensive to import. Hence the importance of ensuring that these substances should be prepared in a proper manner and made to conform to a uniform standard. A committee has been engaged with the assistance of the Indian and Colonial governments in procuring from all parts of the empire the necessary information from medical practitioners and scientific societies. The first result has been the publication of an Indian and Colonial addendum containing the necessary details with regard to plants or substances which in the country yielding them may be employed as stubstitutes for others in the British Pharmacopeia.

LONDON'S VITAL STATISTICS—THE LOWEST BIRTH-RATE ON RECORD.

A declining birth-rate which furnishes a chronic theme for lamentation to French politicians, appears to be becoming a phenomenon of every civilized nation. The report of the medical officer of health for London for the year 1899, which has just been issued, shows that a diminished birth-rate is a feature not only of London but of the whole of England and Wales. The number of births in London in the year 1899 was 133,585, giving a birth-rate of 29.3 per 1000, the lowest on record. From 1851 till 1860 the birth-rate was 33.6; 1861-70, 35.4; 1871-80, 35.4; 1881-90, 33.2; 1897, 30; 1898, 29.4; 1899, 29.3. Thus an almost steady decline is shown in the last 50 years. The marriage-rate during this period shows an almost parallel decline. From 20.6 in 1851-60 it has steadily fallen to 17 in 1894; it then rose slightly, reaching 18.7 in 1898, but again fell to 18.4 in 1899. The death-rate in the last half century has also shown a similar diminution. In the successive decennial periods from 1841 till 1890 the death-rates were 24.8, 23.7, 24.4, 22.5, and 20.5. In the successive years from 1891 till 1899 they were 21, 20.3, 21, 17.4, 19.5, 18.1, 17.7, 18.2, and 19.3.

NEPHRITIS WITHOUT ALBUMINURIA.

At the Clinical Society Dr. W. P. Herringham described a case of this rare condition, the first on record, in which the existence of nephritis without albuminuria in the absence of scarlatina of nephritis has been proved by necropsy. Several cases are recorded of nephritis without albuminuria following scarlatina, and the existence of albuminuria without nephritis in the absence of scarlatina has been suspected. A boy aged 4 was admitted to hospital for diarrhea and vomiting on March 29. After he was supposed to be cured he was sent to a convalescent home. The urine was examined three times and found normal. There was no history of scarlatina. From May 5 till July 14 he was in good health at the convalescent home and was under constant medical supervision. On July 14 dropsy began in the feet and spread to the legs. The urine was not albuminous. He was sent back to the hospital and for the next six weeks he looked a picture of subacute nephritis, but there was never albumin in the urine, which was exceedingly scanty. No formed elements were ever visible under the microscope. On August 29, he died. At the necropsy the viscera, including the kidneys, appeared natural. But microscopic examination of the kidneys showed cloudy swelling in a few of the convoluted tubes, and albuminous plugs in many; in some of the collecting tubes similar plugs were seen. An exudation apparently of serum or albumin was found in almost all the glomeruli.

INDENTATIONS IN THE SKULL OF THE NEWBORN.

At the Edinburgh Obstetrical Society Dr. Munro Kerr, of Glasgow, read an important paper on this subject and described a new method for the relief of the condition. The subject has received very little attention in this country, but in France it has been the subject of numerous treatises ever since Ambrose Paré first described the deformity. Indentations of the fetal skull may be spoon- or furrow-shaped. The latter are much the less serious and seldom cause much immediate trouble. Dr. Kerr, therefore, considered exclusively the spoon-shaped depressions. The injury is usually situated on one or other of the parietal or frontal bones near the anterior fontanelle. It occurs with few exceptions when there is deformity of the maternal pelvis, and generally in cases of flat rachitic pelves. The extent of the deformity need not be extreme; most commonly it is just sufficient to cause a moderate degree of obstruction to the passage of the head. In the great majority of the reported cases delivery was completed by traction either on the head by forceps or on the trunks in breech presentations. But in a small proportion labor terminated spontaneously. When deformity is present the indentation is usually caused by the head being pressed against the projecting sacral promontory. Occasionally the anterior pelvic wall, an undue prominence of the iliopectineal eminence, an osseous tumor, is the cause. Defective ossification of the fetal skull predisposes to it. In most cases the indentations disappear in a week or two and give rise to no symptoms. In some, permanent depressions result which may produce no disturbance or may give rise to minor nervous storms. Some cases terminate fatally.

with twitchings, convulsions and paralysis. In others the child is born asphyxiated and dies unless the depression is removed. Schroeder in 65 cases found that 34 per cent. of the infants were stillborn and that 15 per cent. subsequently died. In treatment air-pumps and cupping glasses have been advocated. Trephining has been successfully performed. But surgical influence is not always practicable. Dr. Kerr has treated three cases successfully by the following method. The fetal bones are very resilient and by experiments he found that artificially produced depressions can be raised by firm antero-posterior compression of the head. On the living child the indentation came out with a sound as when a dent in a felt hat is removed. In one case the seriously impaired respiration was at once relieved.

Correspondence.

Prof. Loeb and Newspaper Sensationalism.

CHICAGO, Jan. 12, 1901.

To the Editor: In view of the fact that my name has been used in a number of sensational articles which have appeared in the daily papers, I wish to state that none of these articles were authorized by me. The results of my experiments have been published exclusively in scientific journals, and I am only responsible for such statements as are expressed in my scientific publications.

JACQUES LOEB,
University of Chicago.

Book Notices.

TREATMENT OF FRACTURES. By Charles Locke Scudder, M.D., Surgeon to the Massachusetts General Hospital. Assisted by Frederick J. Cotton, M. D. With 585 Illustrations. Cloth; pp. 433. Price, $4.50. Philadelphia: W. B. Saunders & Co. 1900.

Although the title of this work is "The Treatment of Fractures," it will be found that the text is by no means so limited as the title, but deals in general with fractures, as the causation, pathology, diagnosis and prognosis are all discussed and often more extensively than is the treatment.

In the opening chapter on fractures of the skull are found a number of short, but valuable points on head injuries in general and on injuries to the brain complicating fractures of the bone. Under the treatment of skull fractures, he says: "In fracture of the base with pronounced symptoms, drainage of the fossa involved, whether anterior, middle or posterior, should be considered." No mention is made, however, of the symptoms which would warrant or indicate such a procedure, nor of the method of executing it nor of the probabilities of it doing any good if attempted. The danger in these cases lies in the injury done to the brain tissue and not in the fact that the fracture extends to the base of he skull.

Under the examination of injuries of the elbow, he says: "In the absence of positive signs of dislocation, subluxation and fracture, the lesion is a sprain or contusion. In the absence of positive signs of dislocation and radical subluxation a fracture will be present." The latter statement, particularly, is not only peculiar reasoning, but also incorrect. In fracture of both bones of the forearm the danger of lateral compression of the bones by the immediate application of a roller plaster cast is too great to advise this as the usual mode of treatment. In fractures of the upper third of the radius the advisability of dressing the arm in supination to prevent the loss of this motion is not mentioned.

The work is voluminously illustrated, and this fact adds materially to its value. The illustrations frequently show conditions much better than the text describes them. A chapter on "The Roentgen Ray and Its Relations to Fractures," by E. A. Codman, is excellent. It deals with the practical value of the rays in the diagnosis of fractures, the interpretation of skiagraphs and the errors of judgment into which one may be led by them. A chapter on the ambulatory treatment of fractures, which is somewhat historical in character, closes the work. While there are many good points in the work, it can not be said that the subject of fractures has been thoroughly covered, not even in treatment. The publisher's work has been unusually well done.

APPENDICITIS AND ITS SURGICAL TREATMENT: With a Report of One Hundred and Eighty-five Cases. By Herman Mynter, M. D. (Copenhagen), Professor of Clinical Surgery in University of Buffalo, Buffalo, N. Y. Third revised edition. Cloth. Pp. 231. Price, $2.00. Philadelphia: J. B. Lippincott Co. 1900.

This monograph was originally submitted to the University of Copenhagen in order to obtain the degree of Doctor of Medicine. It was accepted by the university in 1897, and was published in this country in 1898 as the first edition. The second edition was partly burned in the fire which destroyed the Lippincott Publishing Company in 1899. This, the third edition, has been revised and considerably enlarged by the addition of new material. The work is largely historical in character. The gradual development of modern ideas of appendicitis is traced from the earliest records. As the major portion of the work is made up of extracts from the opinions of others, it can not be criticised as coming from the author.

The author's statement, however, that he does "not consider cases of appendicitis with strictures, dilatations, coprolites, hydrops, ulcerations and the chronic and obliterating forms necessarily infectious" is not in accord with modern views of inflammation. An appendicitis not due to the action of microbes, which is the meaning of infectious here, can not be admitted.

The author's attempt to classify the cases pathologically into simple catarrhal appendicitis, ulcerative appendicitis and infectious appendicitis is open to the same objection.

Under his clinical classification he separates gangrenous appendicitis without perforation from gangrenous appendicitis with perforation. As every case of gangrenous appendicitis is certain to perforate if given time enough, there is not sufficient ground for subdivision of gangrenous cases on this basis.

Under treatment, the methods adopted by the leading men of Europe and America are considered. Much of this already has only an historical value, as opinions in regard to the treatment of appendicitis have changed so rapidly during the past few years. The author's views are decidedly in favor of early operation in acute cases and will, therefore, meet with the approval of all experienced surgeons.

Regarding chronic appendicitis, he states (page 117): "An operation is not indicated unless we feel the thickened and swollen appendix." That this is not a sound rule to follow the author himself makes very clear, for a few lines farther down he says: "I have, nevertheless, in several cases, where I was sure of feeling a hard, indurated appendix extending downward, found it in a diametrically opposite direction. What I felt was the flat tendon of the psoas minor muscle."

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This volume is divided into four parts, the first dealing with the pathology and anatomy of gastric and duodenal ulcer, while the other three are devoted to the clinical aspects of the disease and its sequelæ. The data as regards the morbid anatomy were obtained from the results of over 1000 cases of gastric ulcer, and between 100 and 200 of ulcer of the duodenum taken exclusively from hospital records. The authors find the disease may occur either idiopathically or follow the course of some other malady. In the former case it is most common in young women, while in the latter it is not infrequently the cause of death in certain infective complaints in connection with heart and liver diseases. The book is very fully illustrated, especially in its earlier portion, and is an excellent monograph of its special subject. The illustrations are largely from photographs and are better than is sometimes the case with such reproductions. While several of the leading subjects have their own brief bibliography, quite a lengthy general bibliography is given between pages 254 and 267. The absence of reference to certain comparatively recent American papers probably ought to be expected. The book is an addition to our literature on a subject which has not been too much treated of late years.

The Tale of a Field Hospital. By Frederick Treves, Surgeon Extraordinary to H. M. the Queen. With 14 illustrations from Original Photographs. Leather. Pp. 109. Price $2.50. London, Paris, New York and Melbourne: Cassell & Co., Ltd. 1900.

Mr. Treves gives some excellent word-pictures of life in a field hospital on the desolate veldt of South Africa during the Boer war. The horror of war is seen by the army surgeon as by no one else, and this little book contains many vivid descriptions of ghastly experiences. Some of these are pathetic in the extreme, and others are amusing, though sad. The book is not written especially for medical readers, but these will be most interested in it. The author shows no mean ability as a descriptive writer, and his account of how a surgeon won the Victoria Cross is given in a way that few novelists could equal. The book is beautifully gotten up, with flexible morocco cover.

The Practice of Medicine: A Text-Book for Practitioners and Students. With Special Reference to Diagnosis and Treatment. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania and Physician to the Hospital of the University. Second edition thoroughly revised and in parts rewritten. With 127 illustrations, including colored plates. Cloth. Pp. 1222. Price, $5.50. Philadelphia: P. Blakiston's Son & Co. 1900.

This edition has given the author opportunity to bring the work up to date. The principal changes have been made in the sections on the infectious and nervous diseases; considerable attention has likewise been given to those of the circulatory system. The proofreading, however, particularly in the foreign quotations, is not always above criticism; we notice, for instance, on page 70, "anopheles claviges." New illustrations have been introduced. We have no hesitation in recommending this admirable text-book to students and practitioners.

A Handbook of the Diseases of the Eye and Their Treatment. By Henry R. Swanzy, A.M., M.B., F.R.C.S.I., Examiner in Ophthalmology to the University of Dublin. Seventh edition. With 165 Illustrations. Cloth. Pp. 607. Price, $2.50. Philadelphia: P. Blakiston's Son & Co. 1900.

This excellent text-book has been enlarged by the description of a method of employing the Roentgen rays for the detection and localization of foreign bodies within the eye. Minor alterations and improvements have been made, and several illustrations are added to the text. The different operations for cataract extraction are made plain to the beginner.

Physical Diagnosis of Diseases of the Chest. By Richard C. Cabot, M.D., Physician to Out-Patients, Massachusetts General Hospital. With 142 illustrations. Cloth. Pp. 310. Price, $2.50. New York: Wm. Wood & Co. 1900.

This volume will fill a very useful place in the student's library. It will be the more valuable for its well-selected and numerous illustrations, which serve admirably to assist the comprehension of the text.

Deaths and Obituaries.

Dr. Richard Beverly Cole, ex-president of the American Medical Association, whose death is announced as we go to press, was born Aug. 12, 1829, at Manchester, Va. He received his academic education at the Delaware Collegiate Institute, Newark, Del., and his medical studies were carried on at the medical department of Transylvania University and Jefferson Medical College, from which last institution he received his degree of M.D., in 1848. He subsequently continued his studies in Germany, France, and Great Britain. After a short residence in Philadelphia he removed to San Francisco in 1852, where he had since resided, and has been one of the most prominent members of the medical profession of the Pacific coast. He was surgeon-general of the celebrated vigilance committee of 1856, was surgeon-general of the state of California from 1868 till 1872 and again 1874 till 1876, and has held other official positions of note. He was one of the early movers in medical education on the coast, having held the chair of obstetrics and gynecology in the medical department of the University of the Pacific from 1858 till 1864, and since 1870 in the medical department of the University of California. Besides his presidency of the Association, 1895-6, he was its first vice-president in 1873, and the similar positions held by him in other societies and his honorary membership and fellowship are too many to enumerate. His specialty was surgery, and more particularly gynecology, and he held a high position among his fellow-workers in the field. We have no particulars of his latest illness, but there has passed away full of honors and years one of the most prominent figures in the medical profession of the western section of our country.

John Mason Gaston, M.D., New York University, 1848, a charter member of the Marion County Medical Society and for nearly half a century an esteemed practitioner of Indianapolis, at his home in that city, January 11, after a short illness, aged 82.

Edward Farrell, M.D., College of Physicians and Surgeons, New York, 1864, professor of surgery in the Halifax School of Medicine and president of the Nova Scotia Medical Society, at his home in Halifax, N.S., from pneumonia followed by typhoid fever, January 1, aged 57.

John F. Mahoney, M.D., Harvard University Medical School, 1887, of Chelsea, Mass., in California, aged 37. He was an esteemed member of the staff of the Rufus E. Frost General Hospital, which met January 1 and passed resolutions of respect, sorrow and sympathy.

Abram Claude, M.D., University of Maryland, 1838, for eight terms mayor of Annapolis, professor of chemistry at St. John's College, and during the Civil War a surgeon in the U. S. army, at his home in Annapolis, January 10, aged 82.

Herman Baer, M.D., Medical College of the State of South Carolina, Charleston, 1861, prominent alike as a scholar, pharmacist, physician and citizen, at his home in Charleston, January 2, from apoplexy, aged 70.

David D. Benedict, M.D., Western Reserve University, Cleveland, 1861, surgeon of the 17th Ohio Infantry in the Civil War, at his home, Norwalk, Ohio, from heart disease, January 5, aged 67.

Richard J. Linderman, M.D., Pennsylvania Medical College, Philadelphia, 1858, at one time State Senator from Bucks county, at his home in Philadelphia, January 6, aged 65 years, after a prolonged illness from heart disease.

Smith Howell Mapes, M.D., New York University, 1863, at his home in Indianapolis, January 10, after a long illness, aged 60.

Robert L. Brooks, M.D., Tulane University, New Orleans, of Calhoun, suddenly, from heart disease at Monroe, La., January 9.

S. W. Dean, M.D., University of Minnesota, an interne at the City Hospital, Minneapolis, from diphtheria, January 7, aged 25.

Edwin Boggs Johnston, M.D., Western Pennsylvania Medical College, Pittsburg, 1895, at his home in Allegheny, January 1, aged 29.

Sidney Allen Conkwright, M.D., Jefferson Medical College, Philadelphia, 1892, at his home in West Sedalia, Mo., January 8, aged 31.

John H. Clark, M.D., Starling Medical College, Columbus, Ohio, 1853, suddenly, at his home in Mechanicsburg, Ohio, January 7.

Edward H. Kress, M.D., Jefferson Medical College, Philadelphia, 1897, from typhoid fever, at his home in Johnstown, Pa., January 8, aged 27.

S. B. Bevill, M.D., Vanderbilt University, Nashville, Tenn., 1892, from gunshot wound received in a dispute, at Alexandria, La., January 7, aged 32.

Willis M. Perkins, M.D., Jefferson Medical College, Philadelphia, 1854, suddenly from heart disease, at his home in Aurelian Springs, N. C., January 2.

William Campbell Dodge, M.D., Jefferson Medical College, Philadelphia, 1864, of Adrian, Mich., from pneumonia in Chicago, January 12, aged 58.

Richard E. Christian, M.D., Vanderbilt University, Nashville, Tenn., 1886, from pneumonia, at his home in Rowlandtown, near Paducah, Ky., January 1, aged 45.

Thomas Bohannon, M.D., University of Louisville, one of the oldest and best citizens of Jefferson county, Ky., at his home near Louisville, January 7, aged 85.

D. Proctor Campbell, M.D., Cincinnati College of Medicine and Surgery, 1877, suddenly from heart failure, at his home, Green Springs, Ohio, January 7, aged 65.

Wade H. Jones, M.D., Medical College of the State of South Carolina, Charleston, 1858, at his residence in Tampa, Fla., after a long illness, January 5, aged 65.

Abijah W. Butt, M.D., Jefferson Medical College, Philadelphia, 1886, at his home in Paoli, Pa., after an illness of two weeks, from rheumatism, December 31, aged 38.

J. N. Huffaker, M.D., Southern Medical College, Atlanta, 1882, of Plainville, Ga., at the Erlanger Hospital, Chattanooga, Tenn., December 30, after an operation for tumor.

H. A. De Chesne, M.D., College of Physicians and Surgeons of Lower Canada, 1848, at his home in Oakland, Cal., from complications following operation for hernia, December 21.

James Richard Morison, M.D., Northwestern University, 1899, of Traer, Iowa, from typhoid fever at St. Luke's Hospital, where he was a member of the house staff, January 6, aged 29.

John Nutt, M.D., Rush Medical College, 1849, at San Diego, Cal., January 8, aged 78.

Joseph A. Garvin, M.D., Bellevue Hospital Medical College, 1894, at New York, January 11.

Jacob S. Herries, M.D., University of Michigan, 1878, recently, at his home in Waterloo, Iowa.

Walter L. Keirn, M.D., University of Pennsylvania, 1852, at his home in Lexington, Miss., January 5.

Edward L. Pardee, M.D., New York University, 1870, at his home in New York City, January 11, aged 58 years.

Francis Grafton Connolly, M.D., University of Maryland, 1871, at his home in Baltimore, January 10, aged 80.

Alexander Shaw Porter, M.D., a surgeon on the retired list of the Army, at Redlands, Cal., January 6, aged 33.

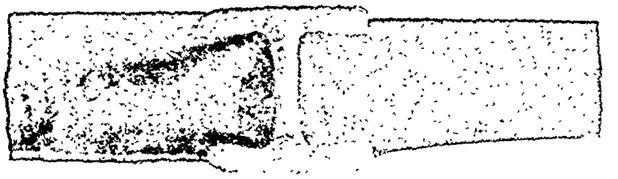
William Wood Lesley, M.D., University of Pennsylvania, 1857, at his home in Philadelphia, January 5, aged 73.

New Instrument.

A New Laparotomy Pad.

J. HENRY BARBAT, M.D.
SAN FRANCISCO.

The ordinary Kelly pad, when used for abdominal operations, allows all the solutions used in the final preparation of the abdomen to flow under the patient's back, thus keeping it in a chemical bath during the entire operation. If the Trendelenburg position is used the pad will probably overflow and the solutions will gravitate toward the patient's neck. If irrigation is necessary, part of the irrigating material will flow on the side which has no apron, and wet the table and floor. These conditions may appear of trifling importance, but those in whose charge the patient is placed after the performance of the operation will hail with delight any device which will avoid these inconveniences.



I have devised a pad which consists essentially of two Kelly pads joined back to back. The pad when in position has an apron hanging down on each side of the table. The patient's spine is in contact with the center cushion, which holds the back up from the table, and keeps it from contact with any fluids which may be in the pad.

I have further arranged the operating-table so that the center is slightly higher than the sides, thus allowing all fluids to run outward instead of under the patient, leaving the pad dry at the completion of the operation.

Miscellany.

Viability of the Plague Bacillus.—In his "Preliminary Note on the Viability of the Plague Bacillus," published as a *bulletin* of the Hygienic Laboratory of the Marine-Hospital service P.A. Surgeon M. J. Rosenau gave the result of his observations on the viability of the plague bacillus on various fabrics and substances and under varying conditions of temperature and exposure to light, presence of moisture, etc. He arrived at the conclusion that the prolonged existence of the organism was dependent upon the presence of moisture, more than upon any other one factor. He showed, for instance, that at room temperature (20 to 27 C.) the organism lived in the presence of moisture for 60 days on crash, linen, woolen or silk fabrics; that it lived 96 days in distilled water; 97 days in ordinary tap water, and for the remarkable period of 125 days upon bone dust, where the presence of moisture was assured by wetting the substance with bouillon, and carefully stoppering the container to prevent evaporation. Since the time of publication of the preliminary note, the experiments have been continued in the laboratory for a period of over a year, and have only recently been concluded. Certain food stuffs were experimented on, but the fact developed that symbiosis with saprophytic organisms was prejudicial to the prolonged life of the bacillus, and that the substances must be subjected to a preliminary sterilization, in order to favor the growth of the plague bacillus. On cheese thus prepared, it lived for 13 to 17 days; on sterilized rice for only 3 days; on dried salt beef, 3 days; on orange peel there was *no growth*: there was no growth on dried figs and raisins, though this aws subsequently proved to be due to the amount of grape or fruit sugar contained. In many of the cases of prolonged survival, however, the virulence of the organism was lost at a comparatively early period, 62 days being the longest period after which the organism was fatal to mice. Rosenau also quotes Yokote, of Tokio, as to the effect of the presence of organisms of decomposition on the existence of plague, showing in the case of the bodies of mice dead of plague that the higher the temperature, the more the decomposition and the greater the number of saprophytes, and that with lower temperatures the reverse obtained.

Prizes Offered by the Paris Academie de Medecine.—Every year the Paris Académie de Médecine distributes about $11,000 in endowed prizes, all but five open to the competition of foreigners. The total offered this year is 851,400 francs, which includes the great Audiffred prize representing an annual income of $4800 for the discovery of a sovereign remedy against tuberculosis. Manuscripts or published works are eligible for a number of the prizes, marked with an asterisk (*) in the list we give below, in which the prizes reserved for Frenchmen are omitted. Those not marked with an asterisk require the identity of the applicant to be concealed—name in separate sealed envelope—until after the awards. All competing articles must be received by February of the year in question. The Académie prize of 1000 francs or $200, for 1902, is offered for the best work on "Toxins in Pathology": for 1903, "Means of Determining the Eliminating Activity of the Kidney"; Alvarenga, 800fr., 1902 and 1905, best monograph or unpublished work on any branch of medicine; Amussat* t. 1000 fr.; 1902, for work or research which has realized or prepared the most important progress in surgical therapeutics; Baillarger*, b., 2000fr., "Treatment of Mental Diseases and Organization of Public and Private Asylums for the Insane": Barbier*, 2000fr., 1902 and 1903, for complete cure for dis-from photographs and are better than is sometimes the case with such reproductions. While several of the leading subjects have their own brief bibliography, quite a lengthy general bibliography is given between pages 254 and 267. The absence of reference to certain comparatively recent American papers probably ought to be expected. The book is an addition to our literature on a subject which has not been too much treated of late years.

The Tale of a Field Hospital. By Frederick Treves, Surgeon Extraordinary to H. M. the Queen. With 14 illustrations from Original Photographs. Leather. Pp. 109. Price $2.50. London, Paris, New York and Melbourne: Cassell & Co., Ltd. 1900.

Mr. Treves gives some excellent word-pictures of life in a field hospital on the desolate veldt of South Africa during the Boer war. The horror of war is seen by the army surgeon as by no one else, and this little book contains many vivid descriptions of ghastly experiences. Some of these are pathetic in the extreme, and others are amusing, though sad. The book is not written especially for medical readers, but these will be most interested in it. The author shows no mean ability as a descriptive writer, and his account of how a surgeon won the Victoria Cross is given in a way that few novelists could equal. The book is beautifully gotten up, with flexible morocco cover.

The Practice of Medicine: A Text-Book for Practitioners and Students, With Special Reference to Diagnosis and Treatment. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania and Physician to the Hospital of the University. Second edition thoroughly revised and in parts rewritten. With 127 illustrations, including colored plates. Cloth. Pp. 1222. Price, $5.50. Philadelphia: P. Blakiston's Son & Co. 1900.

This edition has given the author opportunity to bring the work up to date. The principal changes have been made in the sections on the infectious and nervous diseases; considerable attention has likewise been given to those of the circulatory system. The proofreading, however, particularly in the foreign quotations, is not always above criticism; we notice, for instance, on page 70, "anopheles claviges." New illustrations have been introduced. We have no hesitation in recommending this admirable text-book to students and practitioners.

A Handbook of the Diseases of the Eye and Their Treatment. By Henry R. Swanzy, A.M., M.B., F.R.C.S.I., Examiner in Ophthalmology to the University of Dublin. Seventh edition. With 165 Illustrations. Cloth. Pp. 607. Price, $2.50. Philadelphia: P. Blakiston's Son & Co. 1900.

This excellent text-book has been enlarged by the description of a method of employing the Roentgen rays for the detection and localization of foreign bodies within the eye. Minor alterations and improvements have been made, and several illustrations are added to the text. The different operations for cataract extraction are made plain to the beginner.

Physical Diagnosis of Diseases of the Chest. By Richard C. Cabot, M.D., Physician to Out-Patients, Massachusetts General Hospital. With 142 illustrations. Cloth. Pp. 310. Price, $2.50. New York: Wm. Wood & Co. 1900.

This volume will fill a very useful place in the student's library. It will be the more valuable for its well-selected and numerous illustrations, which serve admirably to assist the comprehension of the text.

Deaths and Obituaries.

Dr. Richard Beverly Cole, ex-president of the American Medical Association, whose death is announced as we go to press, was born Aug. 12, 1829, at Manchester, Va. He received his academic education at the Delaware Collegiate Institute, Newark, Del., and his medical studies were carried on at the medical department of Transylvania University and Jefferson Medical College, from which last institution he received his degree of M.D., in 1848. He subsequently continued his studies in Germany, France, and Great Britain. After a short residence in Philadelphia he removed to San Francisco in 1852, where he had since resided, and has been one of the most prominent members of the medical profession of the Pacific coast. He was surgeon-general of the celebrated vigilance committee of 1856, was surgeon-general of the state of California from 1868 till 1872 and again 1874 till 1876, and has held other official positions of note. He was one of the early movers in medical education on the coast, having held the chair of obstetrics and gynecology in the medical department of the University of the Pacific from 1858 till 1864, and since 1870 in the medical department of the University of California. Besides his presidency of the Association, 1895-6, he was its first vice-president in 1873, and the similar positions held by him in other societies and his honorary membership and fellowship are too many to enumerate. His specialty was surgery, and more particularly gynecology, and he held a high position among his fellow-workers in the field. We have no particulars of his latest illness, but there has passed away full of honors and years one of the most prominent figures in the medical profession of the western section of our country.

John Mason Gaston, M.D., New York University, 1848, a charter member of the Marion County Medical Society and for nearly half a century an esteemed practitioner of Indianapolis, at his home in that city, January 11, after a short illness, aged 82.

Edward Farrell, M.D., College of Physicians and Surgeons, New York, 1864, professor of surgery in the Halifax School of Medicine and president of the Nova Scotia Medical Society, at his home in Halifax, N.S., from pneumonia followed by typhoid fever, January 1, aged 57.

John F. Mahoney, M.D., Harvard University Medical School, 1887, of Chelsea, Mass., in California, aged 37. He was an esteemed member of the staff of the Rufus E. Frost General Hospital, which met January 1 and passed resolutions of respect, sorrow and sympathy.

Abram Claude, M.D., University of Maryland, 1838, for eight terms mayor of Annapolis, professor of chemistry at St. John's College, and during the Civil War a surgeon in the U. S. army, at his home in Annapolis, January 10, aged 82.

Herman Baer, M.D., Medical College of the State of South Carolina, Charleston, 1861, prominent alike as a scholar, pharmacist, physician and citizen, at his home in Charleston, January 2, from apoplexy, aged 70.

David D. Benedict, M.D., Western Reserve University, Cleveland, 1861, surgeon of the 17th Ohio Infantry in the Civil War, at his home, Norwalk, Ohio, from heart disease, January 5, aged 67.

Richard J. Linderman, M.D., Pennsylvania Medical College, Philadelphia, 1858, at one time State Senator from Bucks county, at his home in Philadelphia, January 6, aged 65 years, after a prolonged illness from heart disease.

Smith Howell Mapes, M.D., New York University, 1863, at his home in Indianapolis, January 10, after a long illness, aged 60.

Robert L. Brooks, M.D., Tulane University, New Orleans, of Calhoun, suddenly, from heart disease at Monroe, La., January 9.

S. W. Dean, M.D., University of Minnesota, an interne at the City Hospital, Minneapolis, from diphtheria, January 7, aged 25.

Edwin Boggs Johnston, M.D., Western Pennsylvania Medical College, Pittsburg, 1895, at his home in Allegheny, January 1, aged 29.

Sidney Allen Conkwright, M.D., Jefferson Medical College, Philadelphia, 1892, at his home in West Sedalia, Mo., January 8, aged 31.

John H. Clark, M.D., Starling Medical College, Columbus, Ohio, 1853, suddenly, at his home in Mechanicsburg, Ohio, January 7.

Edward H. Kress, M.D., Jefferson Medical College, Philadelphia, 1897, from typhoid fever, at his home in Johnstown, Pa., January 8, aged 27.

S. B. Bevill, M.D., Vanderbilt University, Nashville, Tenn., 1892, from gunshot wound received in a dispute, at Alexandria, La., January 7, aged 32.

Willis M. Perkins, M.D., Jefferson Medical College, Philadelphia, 1854, suddenly from heart disease, at his home in Aurelian Springs, N. C., January 2.

William Campbell Dodge, M.D., Jefferson Medical College, Philadelphia, 1864, of Adrian, Mich., from pneumonia in Chicago, January 12, aged 58.

Richard E. Christian, M.D., Vanderbilt University, Nashville, Tenn., 1886, from pneumonia, at his home in Rowlandtown, near Paducah, Ky., January 1, aged 45.

Thomas Bohannon, M.D., University of Louisville, one of the oldest and best citizens of Jefferson county, Ky., at his home near Louisville, January 7, aged 85.

D. Proctor Campbell, M.D., Cincinnati College of Medicine and Surgery, 1877, suddenly from heart failure, at his home, Green Springs, Ohio, January 7, aged 65.

Wade H. Jones, M.D., Medical College of the State of South Carolina, Charleston, 1858, at his residence in Tampa, Fla., after a long illness, January 5, aged 65.

Abijah W. Butt, M.D., Jefferson Medical College, Philadelphia, 1886, at his home in Paoli, Pa., after an illness of two weeks, from rheumatism, December 31, aged 38.

J. N. Huffaker, M.D., Southern Medical College, Atlanta, 1882, of Plainville, Ga., at the Erlanger Hospital, Chattanooga, Tenn., December 30, after an operation for tumor.

H. A. De Chesne, M.D., College of Physicians and Surgeons of Lower Canada, 1848, at his home in Oakland, Cal., from complications following operation for hernia, December 21.

James Richard Morison, M.D., Northwestern University, 1899, of Traer, Iowa, from typhoid fever at St. Luke's Hospital, where he was a member of the house staff, January 6, aged 29.

John Nutt, M.D., Rush Medical College, 1849, at San Diego, Cal., January 8, aged 78.

Joseph A. Garvin, M.D., Bellevue Hospital Medical College, 1894, at New York, January 11.

Jacob S. Herries, M.D., University of Michigan, 1878, recently, at his home in Waterloo, Iowa.

Walter L. Keirn, M.D., University of Pennsylvania, 1852, at his home in Lexington, Miss., January 5.

Edward L. Pardee, M.D., New York University, 1870, at his home in New York City, January 11. aged 58 years.

Francis Grafton Connolly, M.D., University of Maryland, 1871, at his home in Baltimore, January 10, aged 80.

Alexander Shaw Porter, M.D., a surgeon on the retired list of the Army, at Redlands, Cal., January 6, aged 33.

William Wood Lesley, M.D., University of Pennsylvania, 1857. at his home in Philadelphia. January 5, aged 73.

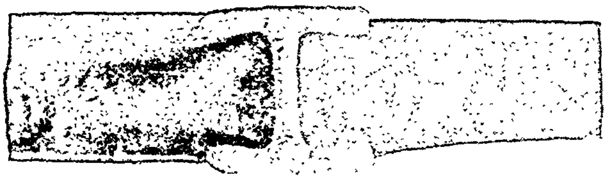
New Instrument.

A New Laparotomy Pad.

J. HENRY BARBAT, M.D.

SAN FRANCISCO.

The ordinary Kelly pad, when used for abdominal operations, allows all the solutions used in the final preparation of the abdomen to flow under the patient's back, thus keeping it in a chemical bath during the entire operation. If the Trendelenburg position is used the pad will probably overflow and the solutions will gravitate toward the patient's neck. If irrigation is necessary, part of the irrigating material will flow on the side which has no apron, and wet the table and floor. These conditions may appear of trifling importance, but those in whose charge the patient is placed after the performance of the operation will hail with delight any device which will avoid these inconveniences.



I have devised a pad which consists essentially of two Kelly pads joined back to back. The pad when in position has an apron hanging down on each side of the table. The patient's spine is in contact with the center cushion, which holds the back up from the table, and keeps it from contact with any fluids which may be in the pad.

I have further arranged the operating-table so that the center is slightly higher than the sides, thus allowing all fluids to run outward instead of under the patient, leaving the pad dry at the completion of the operation.

Miscellany.

Viability of the Plague Bacillus.—In his "Preliminary Note on the Viability of the Plague Bacillus," published as a bulletin of the Hygienic Laboratory of the Marine-Hospital service P.A. Surgeon M. J. Rosenau gave the result of his observations on the viability of the plague bacillus on various fabrics and substances and under varying conditions of temperature and exposure to light, presence of moisture, etc. He arrived at the conclusion that the prolonged existence of the organism was dependent upon the presence of moisture, more than upon any other one factor. He showed, for instance, that at room temperature (20 to 27 C.) the organism lived in the presence of moisture for 60 days on crash, linen, woolen or silk fabrics; that it lived 96 days in distilled water; 97 days in ordinary tap water, and for the remarkable period of 125 days upon bone dust, where the presence of moisture was assured by wetting the substance with bouillon, and carefully stoppering the container to prevent evaporation. Since the time of publication of the preliminary note, the experiments have been continued in the laboratory for a period of over a year, and have only recently been concluded. Certain food stuffs were experimented on, but the fact developed that symbiosis with saprophytic organisms was prejudicial to the prolonged life of the bacillus, and that the substances must be subjected to a preliminary sterilization, in order to favor the growth of the plague bacillus. On cheese thus prepared, it lived for 13 to 17 days; on sterilized rice for only 3 days; on dried salt beef, 3 days; on orange peel there was no growth: there was no growth on dried figs and raisins, though this aws subsequently proved to be due to the amount of grape or fruit sugar contained. In many of the cases of prolonged survival, however, the virulence of the organism was lost at a comparatively early period, 62 days being the longest period after which the organism was fatal to mice. Rosenau also quotes Yokote, of Tokio, as to the effect of the presence of organisms of decomposition on the existence of plague, showing in the case of the bodies of mice dead of plague that the higher the temperature, the more the decomposition and the greater the number of saprophytes, and that with lower temperatures the reverse obtained.

Prizes Offered by the Paris Academie de Medecine.—Every year the Paris Académie de Médecine distributes about $11,000 in endowed prizes, all but five open to the competition of foreigners. The total offered this year is 851,400 francs, which includes the great Audiffred prize representing an annual income of $4800 for the discovery of a sovereign remedy against tuberculosis. Manuscripts or published works are eligible for a number of the prizes, marked with an asterisk (*) in the list we give below, in which the prizes reserved for Frenchmen are omitted. Those not marked with an asterisk require the identity of the applicant to be concealed—name in separate sealed envelope—until after the awards. All competing articles must be received by February of the year in question. The Académie prize of 1000 francs or $200, for 1902, is offered for the best work on "Toxins in Pathology"; for 1903, "Means of Determining the Eliminating Activity of the Kidney"; Alvarenga, 800fr., 1902 and 1903, best monograph or unpublished work on any branch of medicine; Amussat* t. 1000 fr.; 1902, for work or research which has realized or prepared the most important progress in surgical therapeutics; Baillarger*, b., 2000fr., "Treatment of Mental Diseases and Organization of Public and Private Asylums for the Insane"; Barbier*, 2000fr., 1902 and 1903, for complete cure for dis-cases now considered incurable, such as cancer, epilepsy, scrofulas, typhus or cholera morbus, etc.; Boullard*, b. 1200fr., 1902, for best work or best curative results in mental diseases; Bourceret*, 1200fr., 1902 and 1903, best work or research on circulation of the blood; Dupierris*, b. 24000fr., 1902, for best work on "Anesthesia or Diseases of the Urinary Passages"; Capuron, 1000fr., 1902, "Relations Between Fibrous Tumors of the Uterus and Pregnancy"; Chevillon*, 1500fr., 1902 and 1903, "Treatment of Cancerous Affections"; Civrieux, 800fr., 1902 and 1903, "Various Forms of Dementia"; Clarens*, 400fr., 1902 and 1903, for best work on hygiene; Daudet, 1000fr., 1902 and 1903, for best work on so-called incurable diseases, especially tumors; Desportes*, 1300fr., 1902 and 1903, for best work on "Practical Medical Therapeutics"; Falret b. 700fr., 1902, "Somnambulisms"; E. Godard*, 1000fr., 1902 and 1903, for best work on "Internal Pathology"; Herpin, of Metz, qd., 1200fr., 1902, "Abortive Treatment of Tetanus"; Herpin, of Geneva*, 3000 fr., 1902 and 1903, for best work on epilepsy and nervous diseases; Laborie*, 5000fr., 1902 and 1903, for the work that has "Notably Advanced the Science of Surgery," awarded in 1900 to Quenu and Hartmann's book on the "Surgery of the Rectum"; Larrey*, 500fr., 1902 and 1903, best work on medical statistics; Lefèvre t., 1800fr., 1902, "Melancholia"; Lorquet*, 300fr., 1902 and 1903, "Mental Diseases"; Meynot*, 2600fr., 1902 and 1903, "Diseases of the Ear"; Nativelle*, 300fr., 1902 and 1903, for best work on the extraction of the definite principle of a medicinal substance never before isolated; Orfila, b. 4000fr., 1902, "Alkaloids of Belladonna, Hyoscyamus and Datura, considered each from the point of view of Pathology, Therapeutics, Legal Medicine and Pathologic Anatomy"; Portal, 600fr., 1902 and 1903, "Experimental Study of Inoculation and Contagion of Cancer"; Pourat, 700fr., "Study of the Destination of Albuminoid Foods"; Ricord*, b. 600fr., 1903, for best work that has appeared in two years on venereal diseases; Saintlager*, 1500fr., to be awarded to the first person who produces a tumor of the thyroid in animals by administration of substances extracted from the water or soil of places where goiter is endemic; Saintour*, b. 440fr., 1902, for best work in any branch of medicine; Stanski*, b. 1400fr., 1902, for the person who best demonstrates the existence or non-existence of miasmatic contagion by infection or contagion at a distance. If no work fulfills these conditions the prize may be awarded for the best work on any question relating to contagion of inoculable diseases. Vernois* offers 700fr., "Hygiene"; Itard*, t. 2400fr. for best book on practical medicine or applied therapeutics, published at least two years; Lefort*; qq. 300 fr., 1903, for best original research on mineral and drinking waters; Tremblay*, qq., 7200 fr., 1903, for best work on "Diseases of the Urinary Passages, Especially Affections of the Prostate and Catarrh of the Bladder." All the above are annual prizes except those marked b., biennial; t., triennial; qd., quadriennial; qq., quinquennial.

Representation in the American Medical Association.—The Association is the second largest body of medical men in the world, numbering about 10,000 and rapidly increasing. It was organized 53 years ago, when the population of the United States was less than 20,000,000 and when there were probably not more than 40 medical societies of all kinds in the country. The founders recognized the necessity of limiting the number of those who should manage its affairs, and therefore limited the number of those who should have a right to vote. Even at that time the probability was realized that the number might soon be too large to give each one a right to a voice in the management of the affairs of the association, and so the delegate system was adopted. The plan upon which it was organized is the plan upon which the Association is working to-day, with a few minor modifications. It is a delegate body and all the business appertaining thereto is managed by delegates who are supposed to be elected by affiliated societies. These have a right to vote, and only these. The plan is an ideal one. It provides for a democratic form of representation looking to a limited number of representatives who shall act for the whole. It is the adoption of the general plan of the government of our country, by which delegates are elected to represent the many and to meet in congress to legislate for all. But every ten years a reapportionment is made by the government for the purpose of equalizing representation without increasing the size of the working body—the house of representatives. The American Medical Association, however, has made no reapportionment. The delegates are elected on the same basis now as in 1846; that is, one delegate for every ten members, every society being entitled to elect delegates in this proportion. As above stated, in 1847 there were less than 40 medical societies in the country; today there are nearly 1300. The number of delegates to the American Medical Association is not based on the number of members in that body, but on the number of members of the affiliated organization sending delegates. Thus one society may have 100 members, not ten of whom belong to the national body, and yet it is entitled to send ten delegates. One person may belong to several societies and be counted several times. Again, one State, Illinois, according to the list of affiliated societies printed in The Journal A. M. A. last spring, has 96 affiliated county societies, and as one of these has nearly 1000 members it may be presumed that the combined membership of these bodies in this one state, including the state society, represent at least 4000, entitling the state to send 400 delegates. It can readily be seen, therefore, that the number of delegates from the country at large necessarily makes a body too unwieldy for any deliberative legislative work. However, it is not necessary to present these figures in order to demonstrate that the number of delegates is too large, as this is quite evident at each annual meeting and is becoming more plain each year as the number in attendance increases. Under the present ratio of apportionment practically all who desire can receive a delegate certificate. It seems strange that in all these years, with the rapid increase in the number of physicians and in the number of societies in the country, not to mention the increase in population and in territory, no change has been made in this apportionment. If important questions are to be acted on deliberatively the body which acts on them must not be an unwieldy mass but must be composed of a limited number, elected in such a way as to fairly represent the profession in all parts of the country. It would seem desirable for the American Medical Association to consider whether the time has not come for a radical change in the basis of representation to its working body. The change must be radical now, for the reason that it has been delayed so long. If a change had been made each ten years, as is done in Congress, it would not have been considered radical at any time. Now it must be, if the result is to be a deliberative body that can act in a deliberate manner on the vital questions that must come before the Association.—*N. Y. State Jour. of Medicine*, January.

Societies.

COMING MEETINGS.

Pan-American Medical Congress, Havana, Cuba, Feb. 4, 1901.

Tri-State Medical Association of the Carolinas and Virginia, Richmond, Va., Feb. 26, 1901.

The Associated Health Authorities and Sanitarians of Pennsylvania, Harrisburg, Feb. 6-7, 1901.

The Etowah County (Ala.) Medical Society met at Gadsden, January 2, for its annual session, and elected Dr. John P. Ralls, of that place, president.

The Jacksonville (Ill.) Medical Club, on December 22, elected Dr. Henry C. Campbell, president; Dr. Albyn L. Adams, vice-president; Dr. David W. Reid, secretary.

The New Britain (Conn.) Medical Society met January 2 and elected Dr. George J. Holmes, president; Dr. Harris L. Paige, vice-president, and Dr. Joseph B. Brocksieper, secretary and treasurer.

The Yakima County (Wash.) Medical Society was organized in North Yakima, December 28, with Dr. Thomas B. Gunn, president, and Dr. David Rosser, secretary pro tem, both of North Yakima.

The Arizona Academy of Medicine met at Phoenix, December 31, and elected Dr. J. Capsely McIntyre, president; Dr.

Ancil Martin, vice-president, and Dr. Payne Palmer, secretary and treasurer, all of Phoenix.

The Manhattan Dermatological Society, of New York City, has been organized with the following officers: Dr. William S. Gottheil, president; Dr. Ludwig Weiss, vice-president, and Dr. Jacob Sobel, secretary.

The Hancock County (Ind.) Medical Society met January 1, at Greenfield, and elected Dr. James W. Larimore, Greenfield, president; Dr. E. R. Sisson, Maxwell, vice-president, and Dr. Milo Gibbs, Greenfield, secretary and treasurer.

The Wapello County (Iowa) Medical Society met at Ottumwa, January 2, and elected the following officers: Dr. Lewis J. Baker, president; Dr. Frank W. Mills, vice-president, and Dr. Charles R. Russell, secretary and treasurer, all of Ottumwa.

The Orange (N. J.) Practitioners' Society held it first annual meeting January 4, at which the following officers were elected: Dr. Edgar Calvin Seibert, president; Dr. J. Minor Maghee, vice-president, and Dr. Stephen G. Lee, secretary and treasurer.

The Academy of Medicine, of Los Angeles, Cal., at its meeting December 28, elected the following officers: Dr. Benjamin F. Church, president; Dr. Charles W. Bryson, vice-president; Dr. William W. Apple, secretary, and Dr. Charles E. Bacon, treasurer.

The Fayette County (Pa.) Medical Society has elected Dr. Robert S. McKee, New Haven, president; Dr. Levi S. Gaddis, Uniontown, secretary and treasurer; Dr. John D. Sturgeon, Uniontown, assistant secretary, and Dr. Jacob S. Hackney, Uniontown, censor.

The Madison County (Ind.) Medical Society met at Anderson and elected Dr. J. W. Coverston, Frankton, president; Dr. Edward W. Chittenden, Anderson, vice-president; Dr. Oscar E. McWilliams, Anderson, secretary, and Dr. William W. Kneale, Anderson, treasurer.

The Weber County (Utah) Medical Society met December 27 and elected the following officers: Dr. Edward M. Conroy, president; Dr. Chester E. Coulter, vice-president; Dr. James M. Harris, treasurer; Dr. Hayward Powers, librarian; and Dr. Harry B. Forbes, secretary, all of Ogden.

The Belmont County (Ohio) Medical Society, at its recent meeting at Bellaire, elected Dr. John A. Heinlein, Bridgeport, president; Dr. Samuel L. West, St. Clairsville, vice-president; Dr. Alfred C. Beetham, Bellaire, treasurer, and Dr. James S. McClellan, Bellaire, secretary.

The St. Louis Medical Society held its annual meeting December 29 and elected Dr. Lewis E. Newman, president; Dr. William W. Graves, vice-president; Dr. Clifton R. Dudley, recording secretary; Dr. Alonzo R. Kieffer, treasurer, and Dr. William B. Shields, corresponding secretary.

The Hancock County (Ohio) Medical Society held its annual meeting at Findlay, January 3, at which Dr. John M. Firmin was elected president; Dr. Norman L. McLachlan, vice-president; Dr. Don C. Hughes, secretary-treasurer, and Dr. Theron S. Wilson, assistant secretary, all of Findlay.

The Northwestern (Iowa) Medical Association met at Sac City, December 27, and elected the following officers: Dr. Bernard C. Kelly, Carroll, president; Dr. M. L. Le Duc, Breda, vice-president; Dr. Daniel W. Wheelwright, Wall Lake, secretary, and Dr. Daniel J. Townsend, Lohrville, treasurer.

The York County (Pa.) Medical Society held its annual meeting January 3, and elected Dr. Roland Jessop, York, president; Drs. Nathan C. Wallace, Dover, and Jerry C. Murphey, York Haven, vice-presidents; Dr. Ralph A. Harding, York, secretary, and Dr. J. Ferdinand Klinedinst, York, treasurer.

The Jasper County (Mo.) Medical Society held its annual election of officers at Joplin, January 2, with the following result: Dr. D. V. Wale, Carthage, president; Dr. L. C. Chenoweth, Webb City, vice-president; Dr. Elizabeth L. Hull, Carthage, secretary, and Dr. Luther I. Matthews, Joplin, treasurer.

The Altoona (Pa.) Academy of Medicine and Surgery, at its meeting January 2, elected Dr. J. Herbert Hogue, president; Drs. Frederick H. Bloomhardt and Henry H. Brotherlin, vice-presidents; Dr. J. Wesley Rowe, recording secretary; Dr. Mary Irvin Thompson, corresponding secretary, and Dr. Joseph U. Blose, treasurer.

The Lancaster City and County (Pa.) Medical Society, on January 3, elected the following officers: Dr. John J. Newpher, Mt. Joy, president; Drs. Milton U. Gerhard, Lancaster, and Edwin J. Miller, Intercourse, vice-presidents; Dr. Park P. Breneman, Lancaster, secretary; Dr. George R. Rohrer, Lancaster, treasurer, and Dr. Jacob R. Lehman, Mountville, corresponding secretary.

The Medical Science Club of Topeka (Kas.) was organized January 5, its object being the advancement of medical knowledge among its members, the investigation and study of all subjects pertaining to the science of medicine, and the furtherance of fraternal unity in the profession. The following officers were elected: Dr. William E. McVey, president; Dr. O. Portis Davis, vice-president, and Dr. Corban E. Judd, secretary and treasurer.

The Toledo Medical Association met Jan. 11 and elected Dr. William H. Fisher for president; Dr. John North, vice-president; Dr. Charles P. Wagar, recording secretary; Dr. A. C. Schnetzler, corresponding secretary; Dr. F. E. Klauser, treasurer; Drs. J. C. Reinhart, A. C. Schnetzler, F. Jacobi, A. F. McVety and J. D. Ely, executive committee; Drs. H. A. Root, W. V. Anderson, K. M. Bainbridge, H. E. Smead and F. A. Leslie, examining committee; Dr. H. Hathaway, member of library board for 5 years; Drs. W. C. Chapman, H. Hathaway and W. D. Stewart, legislative and sanitary committee.

The Columbia (S. C.) Medical Society met January 1, the vice-president, Dr. William Weston, in the chair. Dr. Benjamin W. Taylor, the senior member of the society, read a paper on "Appendicitis," after which Dr. James Woods, Babcock, superintendent of the State Hospital for the Insane, presented a handsome silver pitcher, suitably engraved, to Dr. Taylor on behalf of the society. In closing his remarks, Dr. Babcock said: "He has been our guide and friend in many of those trying ordeals which all physicians are called on to pass through. While we admit with Stevenson that gratitude is a lame sentiment and that thanks when expressed are often more embarrassing than welcome, yet, as members of the Columbia Medical Society, I ask you one and all to rise while I present this token of our fealty, love and admiration." Dr. Taylor made an appropriate and feeling response, and the society then adjourned and participated in the banquet prepared for the occasion.

New York Neurological Society.

Stated Meeting, Dec. 4, 1900.

President Dr. Frederick Peterson, in the chair.

TERMINAL CONDITION IN A CASE OF DIPLEGIA.

Dr. William M. Leszynsky presented a man, 21 years of age, in whom the chief feature of interest was a trembling of the hands, existing as long as he could remember. The trembling, which was growing worse, had always been more marked on the left side. No disturbance of sensibility could be detected. There was excellent muscular development on the left side and a spinal curvature, probably arising from the use of one side more than the other. There were no signs of atrophy. There was some asymmetry of the cranium. There was no disturbance of vision, but concentric contraction of the visual field. There was no nystagmus, and the pupils and fundi were normal. There was a positive tremor when at rest, increased on motion. The elbow-jerk was elicited only on the right side. Both knee-jerks were exaggerated. Ankle clonus had been demonstrated on both sides, though much more marked on the left. The man had probably recovered from a paralysis that he had had at one time, and was now suffering from a terminal condition of an infantile palsy. Undoubtedly there was a good deal of functional disturbance added to the organic trouble.

Dr. M. Allen Starr thought the case was an athetosis on the left side, and that probably the same lesion, to a minor degree, was present on the opposite side. It was apparently a post-diplegic condition.

Dr. E. D. Fisher also looked upon the case as one of cerebral diplegia most marked on the left side, and with the athetoid movements often seen in such cases. This extreme muscular development seemed to him not at all uncommon in this class of cases.

Dr. B. Sachs said that there could be no doubt that the left side was the center of disturbance, and it was also probable that a part of the tremor was functional. The condition of the muscles in the scapular region seemed to him fully accounted for by the spinal curvature present.

Dr. F. Peterson agreed with the diagnosis of post-paralytic athetoid form of movement. Where the paralysis was small he thought these finer movements were more apt to be present.

TWO CASES OF SPINAL TUMOR, WITH OPERATION.

Dr. M. Allen Starr said that five years ago he had been able to collect 145 cases of spinal tumor, in 22 of which operation had been undertaken. In the cases forming the subject of the paper pain had been very prominent, and this, together with the symptoms of pressure on the cord had allowed of the diagnosis being made. Two cases were reported in full, the first being operated on Oct. 22. On dividing the dura an extremely edematous state of the pia was observed, with one white plaque lying upon it. The cord was smaller and whiter than normal, and was not pulsating. No tumor was found. Three days later the wound was enlarged upward and the dura found to pulsate freely at the upper level, but not lower down. A tumor, 1⅛ inches in length, lay upon the cord. It was oval, had a distinct capsule, and was removed en masse without difficulty. Subsequent examination showed it to be a fibroma. The cord had been reduced to about one-half of its diameter beneath the tumor. No attempt was made by Nature to heal the first operation-wound, and in spite of great care an extensive bed-sore developed over the hip. In the second week after operation the constricted feeling became less marked. The operation-wound healed very slowly. In the fourth week after the operation she had constant fever, probably because of the extensive bed-sores. The spinal incision healed about this time, but she died a few days later. The autopsy showed a softened condition of the cord opposite the exit of the second dorsal nerve from the dura, and the fifth and fourth dorsal nerves could be traced into this area. Owing to the rudimentary condition of the spine of the third cervical vertebra an error of one vertebra had been made in the count at the time of operation. The case seemed to emphasize the fact that there should be no delay in operating for spinal tumor after the diagnosis had been reached. In this case the delay had arisen from an effort to try the effect of antisyphilitic treatment, the husband being known to be syphilitic. Gumma of the spinal cord is quite rare, only 26 such cases having been found in a series of 400 cases. The tumor had been found about two inches higher than had been anticipated. Reed's table had been used as a guide at the first operation, but according to Bruns the operation should be done two segments above the upper limit of pain. This advice was nearer the truth in the present case. The level of the pain was about eight inches lower than the level of the tumor; hence in operating for spinal tumor the level of the cord should be exposed at least four inches higher than the level of the spinal nerve in which pain is found. The operation was done by Dr. McCosh.

The second case was also operated on by the same surgeon. He removed the spines and arches of the second, third and fourth lumbar vertebræ. Dissection showed a tumor involving both the soft and hard tissues of this region. The spines and arches had been eroded by the tumor, which subsequently proved to be an endothelioma. This tumor had invaded the spinal canal and produced pressure on the dura. The patient was in a critical condition for two days after operation, but since then had improved rapidly, and had had no pain since the operation. A considerable degree of atrophy had developed in both peronei. The wound had healed perfectly and there was no evidence of recurrence. It was reasonable to hope for recovery unless there should be speedy recurrence. Out of 145 cases of spinal tumor that he had collected, the history had been fairly clear in 122. Of 76 cases an operation should have been feasible, and according to the pathological report in 75 per cent. the tumors could have been removed.

Dr. A. J. McCosh said that he had found spinal surgery much more satisfactory than brain surgery; certainly the localization of the lesions had been more satisfactory. It was difficult to say, however, that a lesion is situated at any one segment of the spinal cord, but as a portion of the cord equal to three or four vertebræ must be exposed a slight error in localization is not of great importance. He had had recently a case presenting symptoms almost exactly like those of the first case reported in the paper. The line of anesthesia had been almost the same, but there had been no paralysis of the arms. The autopsy showed a crushing injury of the cord between the fourth and sixth cervical vertebræ. The ordinary rules laid down had indicated a lesion much lower down, and he had in this way been misled at the operation. He had not found laminectomy a very serious operation as a rule, most of the patients having exhibited comparatively little shock; hence, one should not hesitate in advising the operation when the diagnosis was sufficiently clear. He agreed thoroughly with what Dr. Starr had said about the inadvisability of delaying the operation for weeks in order to give antisyphilitic treatment a trial. He had met with a number of cases in which he believed the fatal result was attributable to such delay. When bed-sores were already present the case was practically hopeless, the patient almost invariably dying from sepsis. It was well to remember that tumors of the cord are usually found higher up than the estimated level. By beginning above and working downward, it seemed to him that the healing process would be favored. He was not of the opinion that there was any good ground for believing that the operation of laminectomy so weakens the spine as to lead to disability. Mention was made of one of his cases in which a man was engaged at an occupation requiring the frequent lifting of heavy weights, yet he had felt no inconvenience as a result of the operation on his spinal column.

Dr. Pearce Bailey reported the case of a man, 41 years of age, who had been treated for some time previously for a variety of troubles. When seen in May he had stated that about fifteen months previously he had begun to have intense pain on the inner side of the left thigh. There had been an interval of a few months in which this pain had almost subsided. There was slight atrophy in the left leg; the left knee-jerk was absent; there was very slight anesthesia. The case was diagnosticated as one of tumor of the cauda equina. Dr. McCosh had operated upon him on May 22. He had removed the last dorsal and the first and second lumbar vertebræ, and had exposed what had looked at first like a blood-clot, but microscopical examination had proved this to be a round-celled sarcoma. Although it was probable that all of this sarcoma had not been removed, the man had done extremely well all these months, was free from pain and had resumed his occupation.

ANALYSIS OF SYMPTOMS OBSERVED IN TUBERCULAR MENINGITIS AT THE BABIES' HOSPITAL.

Dr. C. A. Herter made an analysis of 24 cases of tubercular meningitis, and in 15 of these there were autopsies. In these 15 cases, 6 were at the age of eight months; 7 were one year old or under. In 9 cases of tubercular meningitis without autopsy, 6 were five months old. These figures showed that the disease was not so rare in the first year of life as had been supposed by some writers. Nineteen of the cases had run their course in less than one month. The fontanelle had been markedly distended in 7 of the 24 cases, and in 3 there had been a marked excess of fluid found at autopsy. In one case the fontanelle had been depressed—a case sick for four or five months. In six cases there had been a delay in the closure of the fontanelle. Vomiting had been noted in 19 of the 24 cases, and had been the first symptom in 14 cases. In five in which there was vomiting, the autopsy showed nothing different from the cases that had presented vomiting. In 11 cases there had been marked constipation. In cases coming to autopsy there had also been tuberculous lesions in the intestine. In several of the cases there were tubercular ulcers of the colon, and yet constipation instead of diarrhea had been present. The pupils were unequal in 12 of the 24 cases, and dilated in the others. The pupils were contracted in only two cases. Nystagmus was observed in four cases, and strabismus in ten cases. In the cases showing strabismus there were marked lesions at the base and in the interpeduncular space. There were general convulsions in 50 per cent. There was no case which did not present either rigidity or convulsions. In cases without meningitis but with tubercles in the brain, convulsions were not so common. Paralysis was noted in 10 of the 24 cases, and was monoplegic in a number. The variability of these palsies was a rather notable feature. In the cases without meningitis but with tubercles in the brain, no palsies or paralyses were noted. The tache cérébrale was noted in 7 cases, and flushing of the face in 10 cases. All the fatal cases had presented stupor or coma, or more or less irregularity of respiration, while these had not been observed in any of the cases with tubercles, but without meningitis. Hyperesthesia had been noted in only one case, and in only one had there been a well-developed cephalic cry. Retraction of the abdomen had been noted to a greater or less degree in 15 of the cases, but not at all in the other cases. The fever had not been high in the uncomplicated cases, and the pulse had shown nothing distinctive. In the cases without meningitis marked opisthotonos and convulsions had been the rule, and early vomiting had been much less frequent than where meningitis was present. Only two or three of the cases had presented solitary tubercles. In all of the autopsy cases the cerebral tuberculosis had been clearly secondary. The intestine was the seat of tuberculous lesions in 11 of the 12 cases in which the intestine was examined. The knee-jerks were increased in a large proportion of cases, and absent in only two. An interesting feature was that at times the knee-jerks would be alternately exaggerated and absent.

California Academy of Medicine.

Monthly Meeting, Dec. 18, 1900.

President Dr. D. O. Montgomery in the chair.

TUBERCULAR JOINTS.

DR. H. M. SHERMAN presented a case which had already been before the Academy. At that time he showed the result of an excision of the elbow, and called attention to the hip of the same side, which was swollen and tender in places; on one day the boy could walk well, and on another he would be lame. Some time before there had been a fluctuant swelling in the upper part of the thigh, and, for the sake of exploration this had been emptied by the aspirator, the contents being clinically tuberculous pus. This particular abscess had not refilled, and its emptying had caused entire disappearance of the symptoms which accompanied it. The symptoms noted at the time the case was in the Academy developed later, and were not the same as those of the abscess. The case very strongly suggested hip-joint tuberculosis, but an analysis of the symptoms prevented that diagnosis. After being shown at the Academy the boy got steadily worse, and the general swelling softened in one part above the trochanter, and fluctuation was palpable. The opening of this fluctuant place let out tubercular pus, and the cavity led down to the rim of the acetabulum, at its upper part, where was found a sequestrum, wedge-shaped, and quite free. It was removed; its bed was scraped out, and the cavity joint, which was already open into the abscess, was thoroughly washed out. The femoral head appeared normal. The wound was closed with temporary drainage and healed very kindly. Very shortly it broke down again and formed a sinus leading into the joint and always discharging. A formal excision of the hip was done and considerable of the ilium, the seat of a tuberculosis that had spread from the site of the sequestrum, was removed. The wound was packed with serile gauze, and made to heal from the bottom. By this time the elbow had again broken down, and it was again laid open and thoroughly scraped out and washed. It too was packed and healed. Since these operations the general health of the patient has been perfect and there had been much increase in weight. The elbow is especially satisfactory; flexion is efficient and of normal range; extension is not so strong; the hand can be put on the head, and is commonly used for all ordinary purposes. The use of the hip has not yet begun.

In this case it seems likely that the elbow was the primary lesion, and the hip secondary to it, for no other lesion, skeletal, glandular or visceral, can now be found; and his health and general development do not suggest the idea of a latent lesion, though they may not be absolutely incompatible with the existence of one. Section of the femoral head after removal showed that the tuberculosis was invading its upper half, that which had been in contact with the sequestrum in the lip of the acetabulum.

HYDROCELE.

DR. DUDLEY TAIT exhibited a patient 79 years of age, on whom he had operated three months ago, and read a paper on the treatment of hydroceles. He said that the essentials of a radical cure are that it shall be devoid of danger and pain, prevent recurrences, and finally that it shall permit the patient to resume his ordinary business in the shortest possible time. He condemned the treatment by the injection of irritating fluids for the purpose of producing adhesive inflammation between the layers of the serosa, also Volkmann's operation of incision, followed by suture of the edges of the serosa to the skin, with or without drainage, as being very uncertain in their results. In twelve of his cases operated by the latter method, he noted relapse in two, and called attention to the fact that German authors acknowledged 12 to 15 per cent. of recurrences after Volkmann's operation. Partial excision of the parietal tunica vaginalis, by which an incision is made down to the fibroserous layer; the tumor, still unopened, is then dissected by means of gauze, or the finger, until the mass is free from the cellular layer, especially posteriorly. A long incision is then made in the sac, from which the liquid escapes. The tunica is then turned inside out, placing the endothelial surface outward and securing the cut edges of the serosa as high as possible around the cord by means of two or three catgut sutures. The testicle is then replaced in its normal position. It is covered by the skin, dartos and cellular tissue. Suture of the skin without drainage completes the operation, which requires generally from five to ten minutes.

He did not claim, however, the slightest priority for this measure, in as much as Longuet published a description recently, and stated having treated 22 cases by this plan, the majority as early as 1898. Among the objections made to the method of inverting the tunica vaginalis, were the risk of injuring the cord, fixation of, and subsequent atrophy of, the testicle, and the possibility of relapse. All these points have been refuted by the experience of Longuet, who had not found a single instance of recurrence in his list of 22 cases. Dr. Tait's personal observations comprised two cases, one of which was the patient exhibited at this meeting, in which an examination of the patient at this time (three months after operation), showed the scrotal tissues freely movable over the surface of the testes. The inverted tunica undergoes atrophy.

DR. CHARLES P. THOMAS, Spokane, said that he could not quite see the advantage of the operation described by Dr. Tait over the one he usually performed, which is that of excising the tunica vaginalis. He believed that every clean surgeon is convinced that the open method is the right one. The diagnosis is not always easy, but is always cleared up by the incision method, which he thought was the proper one. In any form of closed treatment there is a danger of sepsis until the wound is healed.

DR. W. I. TERRY said that the method seemed to him irrational. He did not see the object of doubling up a mass of tunica, and fastening it up to the cord.

NEPHRECTOMY.

DR. DUDLEY TAIT also reported a case of nephrectomy in a patient aged 62. The trouble began 18 months ago with polyuria and pollakiuria. Diabetes was then diagnosed and a rigid diet enforced, causing a loss of 62 pounds. Four months later there was painful micturition and slight pyuria. Occasionally there was some tire on the right side. He was treated for cystitis by various physicians for 14 months with no benefit. Examination in the beginning of November, 1900, showed an adherent painful mass in the region of the right kidney, pus in large quantities in the urine, albumin, a few red corpuscles, numerous pelvic and a few vesical cells. The segregator (Harris) gave a decidedly purulent urine from the right side, and almost clear urine from the left. The amount from the left side was almost double that from the right side. Temperature at this time was almost invariably 37.2° C. in the morning, 39 at night; pulse, from 70 to 80. Diagnosis, pyelonephritis, possibly tuberculous, with a mild cystitis. Lumbar incision November 14 showed an extremely adherent kidney. With considerable difficulty and some hemorrhage the lower three-fourths of the kidney were freed. During this dissection two pockets of pus were opened in the lower third of the kidney. Further dissection being apparently impossible, clamps were applied and morcellation done. The wound was left open. The patient's condition immediately after the operation was very satisfactory; pulse, 98; temperature, 38. The dressing was removed on the third day; the wound had then the aspect seen when clamps are used. Healthy granulations were not noted on the surface of the entire cavity until the fifteenth day. The patient had no control of micturition; it was, however, no longer painful. The daily amount of urine passed could not, therefore, be estimated accurately. It varied between 900 and 1300 gm. It contained a small amount of pus in the beginning and became almost clear during the second week. On the seventeenth day the urine contained a few leucocytes, albumin and a few vesical, but no pelvic cells. The pulse showed a marked increase as early as the fourth day, 104, and rose gradually subsequently. The treatment was salt water subcutaneously, cardiac stimulants, diuretin and milk. On the twentieth day the condition of the wound was entirely satisfactory. The granulations were present in all directions. The pulse remained high, 118 to 120; temperature at night, 38.4. Urine was clearer and more abundant. Without apparent cause a sudden change occurred during the day, pulse 134, irregular; temperature, 38. Urine greatly diminished in quantity. Notwithstanding the use of stimulants and salt solution, the pulse increased in frequency, 180, and more intermittent. The patient died twelve hours later, the twentieth day after operation.

There were at least three points worthy of discussion in this case. 1. The mistake in diagnosis made by those who saw and treated the patient during the 18 months preceding the operation. Failure to make the usual examination of the urine and urinary system is the only possible explanation. 2. Whether in the presence of multiple purulent foci in the kidney it is safer to be contented with a nephrotomy and drainage. The French school almost unanimously advises incision and drainage in the common nodular infiltration of the kidney. In the case under discussion the kidney was very friable, extremely adherent in the upper third, and two pockets of pus had already ruptured during the dissection. Nephrotomy under these circumstances would have been very easily done, but the symptoms would probably not have cleared up with such incomplete drainage. However, the question still remains: would nephrotomy, with or without secondary nephrectomy, have given a better result? 3. The condition and function of the remaining kidney. The Doctor confessed to have neglected the proper study of the case from this all-important point of view. He failed to utilize any of the recent methods of determining the function of the kidneys. The methylene-blue test, the phloridzin test for artificial glycosuria, and cryoscopy were not resorted to.

Johns Hopkins Hospital Medical Society.

Meeting held Dec. 3, 1900.

Dr. H. Barton Jacobs, in the chair.

CIRRHOSIS VENTRICULI.

Dr. Thomas McCrae exhibited, in the absence of Dr. Osler, the specimen of this exceedingly rare affection, from a man aged 48. The previous history was unimportant, except that the patient was in the habit of drinking large quantities of cold beer. The symptoms began five years ago, with acute epigastric pain, followed by loss of weight. There was no nausea or vomiting, nor other symptoms pointing to ulcer. A slight epigastric ridge was felt, which, with the absence of free hydrochloric acid and presence of lactic acid, led to the diagnosis by Dr. W. S. Thayer of carcinoma. Later the patient was seen by prominent specialists in New York, who did not confirm this diagnosis. The case came recently under Dr, Osler's care, with the additional history of a gradually diminishing ability to ingest food and loss of 100 pounds weight during the past year. A test-meal gave 90 c.c. of fluid, with total absence of hydrochloric acid. There was no anemia. Dr. Osler made a diagnosis of cirrhosis of the stomach. Dr. Finney operated and found an hour-glass constriction at about the middle of the stomach. The opening was made on the pyloric side of the stricture, which admitted only one finger, and the stricture was then divided and the opening in the stomach closed in the usual way. The patient gradually sank and died four days later. On autopsy there was no evidence of peritonitis and the stitches held well. Death appeared due to exhaustion. Sections showed great overgrowth of fibrous tissue, and there was no sign of previous ulcer.

DERMOID CYST OF MESENTERY.

Dr. J. F. Mitchell stated that a man aged 34, a healthy, robust teacher, came into the hospital complaining of pain in back and abdomen. His trouble began ten years ago, with colicky pain recurring two or three times a year, with constipation, but no fever. Five years ago, the attacks had become more frequent, recurring five or six times a year. By last summer they recurred every six weeks. Constipation was the rule, and with relief of that came relief of the pain. Three years ago, a lump, 4x3 inches, appeared below the umbilicus in the median line. On entrance to hospital a lump was found just below the umbilicus, which disappeared altogether at times. In the knee-chest posture, it fell forward and was readily moved from side to side. On deep pressure there was pain. The urine was negative and there had been no hematuria. It was scanty and high-colored during the attacks, but there was no increase afterward. The tumor was thought to be a displaced kidney. An exploratory incision was made by Dr. Finney, and it was found to be a dermoid cyst between the folds of the mesentery, about 10 cm. in diameter, quite firm, with indefinite sense of fluctuation. On slitting up the mesentery, the tumor was easily peeled out. The abdominal cavity contained a large amount of fluid, which contained leucocytes but no other cells. Examination of the cyst contents shows fat globules and fatty-acid crystals, but no cholesterin.

Dr. T. B. Futcher said the diagnosis had been in doubt; Dr. Osler had been non-committal, spoke of mesenteric tumor and also intestinal tumor, but inclined more to a tumor of kidney. He himself had also inclined to the latter opinion. Dr. Young had made a cystoscopic examination and drawn the urine from either kidney; this was normal, which should have impressed them more than it had. The contents of the cyst resembled the stools in "fatty diarrhea."

ACUTE PANCREATITIS.

Dr. Jos. C. Bloodgood reported two cases. The affection is rare and the diagnosis not often made. Early diagnosis with operation may be followed by recovery. In 12,000 surgical admissions here, and perhaps an equal number on the medical side, there have been three cases, one of these being hemorrhagic and two of the suppurative form. There were only two cases of cysts of the pancreas and ten or twelve of carcinoma of the pancreas. The first case was one of acute hemorrhagic pancreatitis. There was no history of the case, but the patient came in with a diagnosis of acute intestinal obstruction, nausea and vomiting. Operation was done and areas of fat necrosis and small hemorrhages were found. The wound was closed and death was expected, but the patient recovered.

The second case was in a man 47 years of age, with a considerable excess of fatty tissue. The only evidence of previous illness was symptoms of indigestion for some years. Seven months before present attack he had had an attack of jaundice, lasting three weeks. Present attack began twenty-one days before operation; he was suddenly seized with nausea and vomiting and intense cramp-like pain. Five days later he still had great pain, with distension, nausea, vomiting; the temperature was 105 degrees, the first time it had been noted to be febrile. There was vomiting of pus at intervals. The seventh day his physician noticed a tender mass in the right lumbar region. Patient also noted swelling on right side. There was no marked rigidity. He had chills and fever. Tenderness developed in the mass, but there was no jaundice. On admission patient was a large man, with pulse 110-120, and a tumor more visible to the right side of abdomen, but more palpable to the left of the umbilicus and below it. The right lumbar curve was fuller than the left. There was distinct resistance in the site of the tumor. The surface of the tumor was irregular, but smooth. Its lower margin moved on inspiration; over it was doubtful tympany. The dulness of the tumor was continuous with that of the liver. There was continuous fever. Leucocytes numbered 20,000. He became slightly delirious and stupid. These symptoms continued, with dry and coated tongue, pulse of 130 and dorsal decubitus. The mass was distinctly outlined, occupying chiefly the umbilical and epigastric region and more toward the right side—a large immovable mass feeling like the omentum around an appendicitis. The dulness was less between the tumor and liver. He never had appendicitis in the middle line, although he had it to the right of the gall-bladder. So bad was the patient's condition that operation was done under cocain. On entering peritoneum the omentum was seen to be studded with areas of fat necrosis, making the diagnosis positive. There was an evident tendency to bleed. Pus was encountered, first yellow and gelatinous, later brown, with a distinct, sweety odor. The pus came out slowly, at least 250 c.c. draining out. Death followed within twelve hours with symptoms of infection. Gall-stones were found. The third case presented practically the same history. There was a distended stomach and a definite area of tympany between the tumor and liver. There was a history of morning nausea and vomiting of two year's duration. Patient was a stout man, an excessive user of beer and alcohol. There was an excess of subcutaneous fat. Patient had been sick four or five days before admission. There was a well-defined tumor, not moving on respiration. At the operation done by Dr. Finney the tumor was situated beneath the omentum. There was no improvement in the patient's condition. The wound was reopened and a large pancreatic abscess found; as soon as this was opened and drained nausea and fever ceased. The patient is living and well to-day, and is seen now and then. Six months ago he had only a suggestion of gall-stones. This patient has no recollection of coming to the hospital. Such patients look iller than those with appendicitis or cholecystitis. He has noticed in connection with gall-stones an induration of the head of the pancreas. It is well known, especially from the researches of Opie, that we get interstitial pancreatitis from obstruction of the pancreatic duct in this way.

Philadelphia County Medical Society.

Meeting, Dec. 12, 1900.

President Dr. J. H. Musser, in the chair.

RESECTION OF ULNAR NERVE.

DR. ERNEST LAPLACE presented a case of nerve severed for nearly one year and in which there had been paralysis and contracture of the fingers. The injury had resulted from a fall on a sharp object. He had made a dissection and found the two ends of the nerve separated a distance of about 1½ inches. The lower end was enveloped in cicatricial tissue. Both ends had been freed from the surrounding tissues and gradual traction made until the two ends were brought together, after which the nerve was united end to end by ten very small silk sutures inserted by means of the smallest needle possible. Before the operation there had been complete paralysis, but on the following day the patient could move the fingers, and on the fourth day he could move the hand; sensation is almost normal, thus showing that many of the severed fibers have found there fellows. From this fact the result might demonstrate the value of en-to-end union in severed nerves rather than splicing or overlapping.

DR. T. S. K. MORTON spoke of a similar case he had operated upon several years ago in which sensation had returned in the parts within two or three hours after the operation for union of a severed nerve.

LYMPHATIC AND PORTAL INFECTION FOLLOWING APPENDICITIS.

DR. JOHN C. MUNRO, of Boston, began by stating that infection of the retroperitoneal lymphatics is more common than is generally supposed. A continued temperature after operation for appendicitis should indicate infection of the retroperitoneal lymphatics. When there is a chill, high fever and jaundice, infection of the portal system should be suspected. When the former is found in any given case it should be looked on as of appendicular origin. The speaker then detailed a series of cases to illustrate the symptoms set up by infection of this character. The onset is not always sudden, but may occur several weeks after the operation and leading to the formation of abscess. In one case there had been a slight elevation of temperature for three months following an operation for appendicitis and later a retroperitoneal abscess was found. In another case subsequent to operation the patient developed chills and fever accompanied by jaundice, but aspiration—which is not a good procedure—failed to find pus in the hepatic region. In one case an abscess of liver was found which had resulted from appendicitis.

From the history of many cases he had made the following deductions: 1. In appendicitis there is nearly always infection of the retroperitoneal lymphatics. 2. This infection may date its origin previous to the onset of appendicitis. 3. Infection of the lymphatics is more common than pylephlebitis. 4. The infection shows a tendency to spread by way of the lymphatics. 5. These complications demonstrate the value of free openings and drainage following operations for appendicitis.

DR. H. A. HARE spoke of the venous and lymphatic vessels and their relationship in the region of the appendix. A study of these shows the readiness by which infection may reach the liver and contiguous regions. The relation existing between the blood-supply of the appendix and liver is a close one. The essayist had touched on the fact that symptoms often indicated the affection of distant organs such as the spleen, stomach or other viscera when the main fault might be located in the appendix. This fact might be due to the widespread infection resulting from this condition.

DR. JOHN B. ROBERTS believed that physicians as well as surgeons were too prone to look on appendicitis as only a local condition, but the symptoms presented should call for a more careful study of the question. He disapproved of introducing aspirating needles as a diagnostic sign of hepatic abscess.

DR. EDWARD MARTIN was afraid that perhaps too many cases of doubtful nature would now be attributed to this condition. In his opinion infection of the retroperitoneal lymphatics was somewhat rare. A free incision with drainage in appendicitis would usually prevent involvement of the lymphatics. As to the use of a trocar in making explorations for abscess, it might in some cases be better than an incision which might lead to fatal hemorrhage, as instanced by a case which he had seen.

DR. JOHN G. CLARK stated that within the past three or four months he had been making a series of experiments to determine the very point made plain by Dr. Munro. He had found that after carmin granules had been injected into the more dependent parts of the peritoneal cavity of rabbits and the animal subsequently kept in an upright position after the lapse of five hours carmin granules could be found in some of the lymphatics in the sternal region. This showed that they could easily make their way through the diaphragm. After the lapse of a longer period of time carmin granules could be found near the liver, kidneys or gastric regions. He had been able also to find these granules in the bone marrow. These results only seem to follow the injection of the granules into the more dependent portions of the peritoneal cavity or adjacent to the pelvis which might therefore go to confirm the clinical observations of Dr. Munro in regard to infection of the retroperitoneal lymphatics and venous circulation in cases of appendicitis.

DR. SIMON FLEXNER thought the condition might be allied to that seen in typhoid fever and other infectious diseases when thrombosis occurs. It requires only a very short time for bacteria to be distributed throughout the body. This had been demonstrated by an observer who, after injecting the bacillus prodigiosus, had, after five minutes, found it in the bile.

Chicago Pathological Society.

Meeting held Dec. 10, 1900.

URETERO-INTESTINAL ANASTOMOSIS.

Dr. F. R. Zeit discussed an experimental study of the pathology and bacteriology of ureteral implantation into the rectum as practiced on 120 dogs, and implantation of the trigonum into the rectum on 21 dogs.

The operations on the animals were done by Drs. Franklin H. Martin and Reuben Peterson with a view of devising an operation for cases of malignant disease of the bladder. The paper gave: 1. A complete résumé of the literature of bilateral uretero-intestinal anastomosis on man and animals, showing that no better results can be expected in man than those obtained in animal experiments. 2. The results of careful pathological and bacteriological examination of the operated animals. 3. The results of animal experiments with a view of producing immunity to the bacillus coli communis.

The conclusions reached are, that no matter what the operation employed with a view of preventing ascending renal infection, the pathology of ureteral implantation into the rectum is the pathology of pyelonephritis and its sequelæ. All the variations of this form of suppurative nephritis were observed in the operated dogs, from the earliest beginning of ascending infection a few days after the operation up to the healed process with induration and cicatrization and resulting granular contracted kidneys, which were found in all dogs that have recovered from the primary results of their pyelonephritis. Numerous microscopic specimens and photomicrographs were shown to prove that infection could have taken place only by way of the ureters, pelvis of kidney and uriniferous tubules, and that the pyelonephritis was caused by the bacillus coli communis.

Most of the dogs died of peritonitis due to leakage of urine and general sepsis and pyelonephritis during the first ten days, the primary mortality being 84 per cent. Dogs living a longer time died of pyelonephritis, pyelonephrosis and pyemia, or recovered from the pyelonephritis with contracted kidney. Specimens were shown of other dogs which appeared to be in perfect health 210, 300 and 405 days after operation. All had granular contracted kidneys, and still showed evidences of former pyelonephritis. The ureters are not much diseased, although usually dilated, no matter how severe a pyelitis or pyelonephritis was present. The bladder is always found to be infected by way of the urethra. In all cases where the bladder had not been removed, it was found to contain a purulent fluid teeming with bacteria, mostly staphylococcus albus and bacillus coli communis. A purulent cystitis was found also when the operator squeezed out the bladder thoroughly before closing up the abdominal wound after the operation.

Operative results on 21 dogs with implantation of trigonum into rectum were more favorable. Specimens from several dogs were shown, one of which was killed on the thirteenth day after operation. One ureter with trigonum implanted showed a normal kidney. The other ureter implanted without vesical mucosa resulted in a violent pyelonephritis.

Buffalo Academy of Medicine—Medical Section.

Meeting held Dec. 11, 1900.

PERIODIC VOMITING.

Dr. Charles G. Stockton reported a case of what was held to be characteristic cyclic or periodic vomiting in a child. It first appeared when the child was 3 years old, and occurred at intervals of six or twelve weeks, thereafter, for a period of five years, when the attacks declined in frequency and severity, and have now quite disappeared. The seizures were ushered in by a day or two of dulness with inactivity of the bowels: the appetite was usually good. The vomiting occurred suddenly and was repeated sometimes with severe retching at intervals of one-half or one hour. The ejecta appeared to be pure gastric juice, rich in hydrochloric acid, which acidity declined as the attacks passed off. After vomiting for about a week, during which there was very alarming prostration, constipation of the bowels and diminution of the urinary output, improvement appeared as suddenly as the onset. In forty-eight hours the child seemed as well as ever, and continued to be perfectly well in the interval. The affection was apparently in no way related to any other ascertainable condition, and was not precipitated by overeating or other faults in hygiene. The writed assigned this case to a group which he thinks differs from the cases reported by Leyden, which occurred in adults, and those reported by Boas, in which there was hypochlorhydria, and from other groups not answering to the description of pure cyclic vomiting in children. Hypodermoclysis and enteroclysis were recommended as means of averting the dangers of collapse. Several fatal cases were referred to.

TREATMENT OF DISEASES LOCALLY BY HOT-AIR.

Dr. Prescott Le Breton referred to the introduction of superheated dry air in England in 1893 as a remedy to alleviate pain and cure disease. A description of the apparatus which essentially consists of 1, an oven to enclose the affected parts; 2, a suitable covering for the skin to absorb perspiration and prevent blistering, and 3, some means of generating heat.

The treatments to any given part occupy from one-half to one hour, and the temperature reached in the bath varies from 250 to 340 F., the heat varying according to the sensation of the patient. Massage is indicated afterward, especially if there is any swelling or exudation. The effects of this extreme heat locally are a relaxation of the tissues, an increase in the circulation with dilation of the blood-vessels, a numbing of the sensory nerves, a marked perspiration and often a change from an unhealthy to a healthy metabolism. Swelling is diminished, pain is relieved, stiffened joints and muscles move more freely. The writer details the effect of this treatment in 12 selected cases, including Colles fracture, sciatica, muscular rheumatism, contusion to lumbar region, coccygodynia, rheumatoid arthritis, neurasthenia spinalis, old dislocation of hip, subacute rheumatism, and neuritis, in all of which much good was noted with oftentimes a cessation of all symptoms. A like result was also noted in 35 cases selected from other observers.

Therapeutics.

Vapor-Bath.

The following simple method for giving a vapor-bath to patients who have to be treated in the recumbent position is recommended by *La Presse Médicale*: Spread a blanket over the bed, upon which place the patient, dressed only in his gown: under each foot and at each side of the body place a well-corked stoneware jar of boiling water. Before being placed in position, each jar should be covered with a damp towel and afterward covered with a piece of flannel. After the jars are placed in position the blanket is folded over the patient and he is then covered with another blanket and an eiderdown quilt. In a few minutes a profuse perspiration is brought on, lasting for a time, varying according to circumstances. If it is advisable to increase the perspiration, warm drinks may be given. When the patient is taken out of his vapor-bath, the blankets on which he lies and the jars are withdrawn without uncovering him, and his body should be dried under the second blanket and the quilt, which are allowed to remain. After twenty or thirty minutes his linen may be changed.

Nephritis Following Scarlet Fever.

J. Lewis Smith recommends the following mixture in order to increase the elimination by the bowels, skin and kidneys:

℞.	Potassii acetatis		
	Potassii bicarb.		
	Potassii citratis, āā	ʒii	8
	Infusi tritici repentis, q. s. ad	℥viii	256

M. Sig. A teaspoonful every three or four hours in water, for a child of 5 years.

Treatment of Impetigo Contagiosa.

Engman, in *St. Louis Med. Review*, outlines the following treatment in impetigo: The bullæ should be opened and the contents caught in absorbent cotton and not permitted to run over the skin. Free the surface of the diseased epidermis by clipping it off close to the bullæ, and dust with an antiseptic powder. When the disease is widespread and there is much crust-formation, a bland oil, such as carron-oil, liquid albolene, or olive-oil, to which has been added 2 per cent. of salicylic acid, should be used. This should be well rubbed over the surface, the crust detached, and the following dusting-powder applied:

R.	Acidi salicylici	gr. xx	1|33
	Acidi borici		
	Zinci oxidi		
	Amyli, āā	ʒii	8

M. Sig. Apply locally.

Baths are contraindicated. Ointments seem to irritate, consequently the application of the bland oil to soften the crusts followed by the antiseptic dusting-powder is regarded by him as the most successful method of treatment.—*Med. Standard.*

H. H. Whitehouse, in "Twentieth Century Practice," recommends the removal of the crusts by washing with white castile soap in warm water, followed by the application of a mercurial preparation:

R.	Hydrargyr. ammoniati	gr. x	|66
	Adipis benzoinati	℥i	32

M. Sig. Apply locally twice daily; or

R.	Ichthyoli	gr. xv	1
	Ung. zinci oxidi q. s. ad	℥i	32

M. Sig. Rub in well *two or three times daily.*

The latter acts very well, especially when the crusts are adherent, in which case it should be spread thickly on lint and bound on. He states that in all cases, but particularly in the bullous form, ichthyol in 3 per cent. strength is very effective.

Removal of Warts and Moles.

W. C. Abbott applies the ethylate of sodium for this purpose in the following manner: The growth should be walled in with a piece of wax, vaselin or mutton tallow and then a drop of the above solution should be placed on the tip of the growth. After two or three minutes any remaining portion should be absorbed with a blotter. A caustic effect occurs which kills quite deeply; a scab is formed, which peels off, leaving the part normal.

[Sodium ethylate is formed by the combination of metallic sodium and pure alcohol. It forms a white powder, which is soluble in water or alcohol. It is generally used in an aqueous solution of 10 per cent. strength.]

Sweating of Feet—Hyperidrosis Pedis.

The *Pharmaceutical Post* publishes the following formulæ for treatment of excessive sweating of the feet:

R.	Balsami *peruviani*	m. xv	1
	Acidi formici	ʒi	4
	Chloralis hydratis	ʒi	4
	Alcoholis—absolute—q. s. ad	℥iii	96

M. Sig. Apply by means of a local pad of wool; or

R.	Acidi borici	gr. xv	1
	Sodii boratis		
	Acidi salicylici, āā	ʒvi	24
	Glycerini	℥iss	48
	Alcoholis, q. s. ad	℥iii	96

M. Ft. lotio. For local application.

Sajous' Annual contains reports of good results obtained by Legoux in treatment of cases of obstinate perspiration of the feet with offensive odor, of several years' duration. He first bathed the feet for several days in a weak infusion of walnut leaves and applied the following mixture twice daily:

R.	Liq. ferri chloridi	℥i	64
	Glycerini	ʒv	20
	Essentiæ bergamottæ	m. xl	2|66

M. Sig. Apply to the feet twice daily.

For Disinfecting the Mouth in Infectious Diseases.

R.	Acidi carbol	ʒi	4
	Glycerini	ʒvi	24
	Aquæ destil., q. s. ad	℥ii	64

M. Sig. Apply to the buccal mucous membrane with a pledget of cotton on an applicator; or

R.	Acidi carbol.	ʒi	4
	Spiritus camphoræ	ʒii	8
	Olei olivæ, q. s. ad	℥ii	64

M. Sig. To be applied locally by means of an applicator; or

R.	Acidi carbol	ʒi	4
	Alcoholis—pure	ʒii	8
	Glycerini	ʒvi	24
	Aquæ destil., q. s. ad	℥ii	64

M. Sig. For local application by means of a swab.

Care should be used that none of the solution drops into the larynx. This can be avoided by pressing the swab against the side of the bottle before applying it.

Thiocol in Tuberculous Cases.

Braun, in *Klin. Ther. Woch.*, has found that thiocol is better tolerated by the stomach than the other drugs of the creosote class. It has given considerable relief in tuberculous cases; to those suffering from chronic bronchitis especially.
—*Internat. Med. Mag.*

[Thiocol is the potassium salt of guaiacol-sulfonic acid. It contains about 60 per cent. of guaiacol. It is a fine white powder, which has a taste at first bitter then sweetish. It surpasses the other preparations in that it is free from odor, is very soluble in water, rapidly absorbed by the mucous membranes and is free from irritating action. The dose is eight grains, gradually increased to thirty or forty grains, three times a day.]

The following is the most preferable way of prescribing it:

R.	Thiocol	ʒiii to ʒiv	12-16
	Syr. aurantii, q. s. ad	℥iii	96

M. Sig. One *teaspoonful three times a day.*

Removal of Foreign Bodies in the Nose.

Children, while playing with small bodies, such as marbles, buttons, peas, beans, and grains of different kinds, very frequently place them in the nose, and they are removed with difficulty, as well as causing great fright to the child. Keating, in his treatise on "Diseases of Children," recommends that the *child, if old enough*, be instructed to blow hard or to cause sneezing by tickling the membrane of the nose or by the application of snuff. The body can frequently be dislodged by having the child take a full breath and then give him a smart blow on the back. If not dislodged then close the nostril which contains the body and blow into the other nostril through a rubber tube, instructing the patient to keep the mouth closed; suddenly release the closure of the side occupied by the body. If this does not accomplish the purpose then it will have to be drawn out by forceps or other surgical means resorted to.

Treatment of Gonorrhea.

The *following* prescriptions, recommended in treatment of gonorrhea are published in the *N. Y. Med. Journal.*

R.	Extracti zeæ fluidi—corn silk		
	Spts. etheris nitrosi, āā	ʒss	16
	Balsami copaibæ	℥i	32
	Mucilaginis	℥ss	16
	Aquæ destil, q. s. ad	℥vi	192

M. Sig. A dessertspoonful to be taken three times a day in water.

[The therapeutic agent in this prescription is the volatile contained in copaiba and it should be used more extensively in the subacute stage of gonorrhea. Zea and copaiba both contain resins which promote diuresis.]

FOR WATERY GLEET.

R.	Acidi tannici	gr. iv	|25
	Mucilaginis	ʒi	4
	Aquæ, q. s. ad	℥i	32

M. Sig. Use as an injection two or three times daily.

Psoriasis.

The *British Med. Journal* reports the treatment of psoriasis applied by Balzer and Mousseaux, by means of oil of cade baths. The following formulæ are prepared:

℞.	Saponis—soft	℥iii	96	
	Aquæ	℥vi	192	

To this emulsion oil of cade is added in the proportion of:

℞.	Olei cadini	℥iii	96	
	Emul. saponis	℥viii	256	

M. Sig. Add the entire amount to one bath—thirty gallons of water.

The patient is instructed to use plain soap and water to remove the scales before taking the bath. Although not stated, it is supposed that the temperature of the bath should be suited to the patient, as well as the length of time the patient is to remain in it.

Crocker recommends the following to reduce the hyperemia after the scales have been removed:

℞.	Calaminæ	℈ii	2	66
	Zinci oxidi	ʒss	2	
	Liq. calcis			
	Olei olivæ, āā	℥ss	16	

M. Sig. Apply locally after removing the scales by means of soap and water or by immersion in a warm alkaline solution.

Herpes Genitalis.

W. F. Robinson states that caustics should never be used. as grave ulceration may follow their use. He employs the simplest antiseptic washes and observes cleanliness by immersing the parts in a warm boric-acid solution or bathing with the same twice daily and dusting afterward with the following:

R.	Europhen			
	Acidi borici. āā	℥i	32	

M.

Duhring recommends the following:

R.	Zinci sulphatis			
	Potassii sulphidi. āā	ʒss	2	
	Spts. vini rectificati	ʒi	4	
	Aquæ	ʒvii	28	

M. Sig. Shake and apply frequently.

Eczema of Female Genitals.

The following is recommended by Von Sehlen:

R.	Ichthyoli	ʒiss	6	
	Pulveris amyli	℥i	32	
	Vaselini	℥ii	64	

M. Sig. Apply locally twice a day.

—*Encyc. Pract. Med.*

Tuberculosis.

Daly, in *The Medical Record*, recommends the following pill in tuberculosis:

℞.	Camphoræ	gr. ii		13
	Heroin	gr. 1/12		005
	Creosoti	mi		06

M. Ft. pil. No. i. Sig. One such pill three times a day and at midnight.

He reports six cases and says he has found this formula superior to any he has used in treatment of the cough. It is also of great benefit in the cases of nervous depression found in tuberculous subjects. The disorders of the stomach, which are sometimes difficult to combat in phthisical patients, may be indirectly due to cough and this remedy therefore gives relief. When the cause is a local one he has had the best results with the following formula:

℞.	Bismuthi subnitratis	gr. xv	1	
	Guaiacoli carbonatis	gr. i		06
	Heroin	gr. 1/32		002

M. Ft. tablet No. i. Sig. One tablet after each meal.

The guaiacol has been used in this formula in small doses because it has a tonic effect in the stomach. and the heroin because it has some analgesic power. In the use of this last tablet care must be taken to prevent the constipation which the bismuth may produce.

Ovarian Neuralgia.

℞.	Camphoræ monobromatæ	gr. iss		1
	Pulveris capsici	gr. ii		13
	Confectionis rosæ, q. s.			

Sig. One such pill every three or four hours.

—*N. Y. Med. Jour.*

Administration of Quinin to Children.

H. B. Sheffield, in Med. Times and Register, recommends euquinin, which is a perfected and practically tasteless preparation, to be given children, as it is a palatable preparation. It may be prescribed in simple syrup. It has the further advantage over quinin in being less apt to produce nausea and tinnitus. For grown-up children he prescribes the following:

℞.	Quininæ sulphatis	gr. xxx	2	
	Acidi sulphurici dil.			
	Ess. menthæ piperitæ, āā	ʒss	2	
	Syr. yerbæ santæ comp., q. s. ad	℥iii	96	

M. Sig. Two teaspoonfuls every three hours.

He gives iron in the following combinations:

R.	Vini ferri amari			
	Elixiris aurantii, āā	℥i	32	

M. Sig. One teaspoonful three or four times a day; or

R.	Ferri et ammon. citratis	gr. xv	1	
	Spts. vini gallici	℥ss	16	
	Essence pepsini	℥i	32	
	Syr. simplicis, q. s. ad	℥ii	64	

M. Sig. One teaspoonful three or four times a day; or

℞.	Tinct. ferri chloridi	ʒi	4	
	Glycerini	℥ss	16	
	Syr. zingiberis	℥i	32	
	Aquæ, q. s. ad	℥ii	64	

M. Sig. One teaspoonful three times a day after meals.

Medicolegal.

Knows the Sex That Commits Rape.—Section 4221 of the Revised Statutes of Utah of 1898 makes it a felony for any person to carnally and unlawfully know any female over the age of 13 years and under the age of 18 years. The word "male" does not appear in the statute, yet it is well known, the Supreme Court of Utah says, in the case of State vs. Williamson, that no one but a male person could be indicted for the specific offense of rape; and the court, it continues, would construe the statute to mean that a male person only could consummate the offense named therein. So it holds that the information in such a case need not specify the sex of the defendant. Or, more generally speaking, it holds that in a criminal prosecution, where the offense charged is such as only a male person could consummate, the information need not specify the sex of the defendant.

Physician Carelessly Accelerating Death.—When the case of Gray vs. Little was before the Supreme Court of North Carolina for the first time it held erroneous, as stated on page 162 of The Journal A. M. A., of July 21, 1900, an instruction to the effect that only nominal damages could be recovered for a death where it was only accelerated by the malpractice and negligence of the defendant. But it was sheer inadvertence on its part, it says, on the reappearance of the case before it, that it then referred to an instruction that was asked and not given in a way which led the lower court on the second trial to submit an issue as to punitive damages. The state statute which authorizes the recovery of such damages as are a fair and just compensation for the pecuniary loss resulting from a wrongful killing, which confers the right to recover in such cases, it holds, restricts the recovery to compensatory damages. But is says that it is difficult for it to comprehend how the jury could have returned a verdict of $100 as compensation for the death by malpractice, as was found, of a wife and mother 33 years of age, and it suggests that considerations of humanity would seem to require that the case should be investigated by the solicitor for the district, if the criminal arm of the law has not already been invoked.

Falsely Charging That One Has Leprosy.—To falsely say of one that he has leprosy is slander, and to publish it by writing is a libel, Mr. Justice Gaynor holds, in Simpson vs. Press Publishing Company, at a special term of the Supreme Court of New York, Kings County. Nor does he consider that it makes any difference in this regard if the progress of science has revealed, as was contended in this case, that leprosy was erroneously classed as infectious or contagious. It remains a term of slander, he holds, until the law is changed. Every disease that is infectious or contagious is not embraced within the definition of slander. The bane in the charge of leprosy which made the courts classify it as slanderous was its tendency to cause one to be shunned and excluded from society, and that still exists. But the definition of libel is much broader than that of slander, and any false publication by writing which exposes one to ridicule, hatred, contempt or obloquy, or causes him to be shunned or avoided, is a libel in and of itself, though if spoken it might be no slander. Hence, to falsely charge one in writing with having any repulsive disease or condition which would necessarily cause him to be shunned or avoided, the judge says, would be libel, but it would not be a slander if spoken unless it was one of the diseases embraced within the definition of slander. Moreover, the point that the complaint was insufficient for not stating that leprosy is contagious or infectious, he holds was not well taken, as such an allegation is neither usual nor necessary, any more than to formally plead that to steal is a crime, for the court takes notice of what words constitute slander per se.

Venue of Actions Against Trustees.—The Civil Code of Kansas, after specifying the venue of various classes of actions, local and transitory, provides that every other action must be brought in the county in which the defendant, or some one of the defendants, reside or may be summoned. Under such a provision the Supreme Court of Kansas holds, in State vs. Hornaday and others, a summons to a member of the board of trustees of the charitable institutions of the state may rightfully issue from the court of any county in which such member may be, whether resident there or not, and may be served upon him there; and, when so issued and served, process may rightfully issue from such court to other members of the board, and be served upon them in other counties. It says that the members of the board are possessed of an official character, which accompanies them throughout their respective terms. While, as individual members, apart from their fellows, they may not be able to transact public business, yet they do not take on and put off their official character as the exigencies of the public service require them to convene or separate. They are each of them public officers, liable at any time to be called to the discharge of some of their public duties, and liable at any time to receive notice of public interests requiring their convocation and attention. The duties performed by them do not require their assembly at any set time or at any particular place, but they may meet when and where, within the state, the public service may be best conserved; and they are therefore, the court holds, clothed, everywhere in the state and throughout their respective terms, with the responsibilities and official character of their positions.

Opinions as to Age.—The fourth appellate division of the Supreme Court of New York says, in the case of Hartshorn vs. the Metropolitan Life Insurance Company, that it is well settled that expert evidence is proper where the age of a child is at issue, and that it has often been received concerning the age of an absent adult. But, to entitle such evidence to any weight, the facts and circumstances upon which the opinion is based, the court holds, should be given, and the witness should first describe, as far as practicable, the appearance of the individual whose age is in question. It also remarks that it is common knowledge that an opinion is ordinarily of but little value as to the real age of a person between the ages of 30 and 60. Here, one of the principal defenses to an action to recover life insurance was an alleged breach of warranty on the part of the insured in representing herself to be many years younger than she really was. According to the undisputed testimony of a granddaughter of hers, the insured, if she gave her age correctly in her applications for this insurance, was a grandmother at the age of 27 years, which, although not impossible, the court holds would be sufficiently unusual and extraordinary to require further proof than a mere opinion as to her age, before the conclusion that such fact was established by the evidence would be warranted, and the presumption raised by the baptismal record would be fairly overcome. The opinion referred to was that of the physician who examined the woman on each of her two applications for insurance. He testified that he had known her for three or four years, had made calls in the family professionally, but not upon her, and had called at the house frequently to see others, perhaps two or three times a month, for some time; that she had black hair, was a strong, active woman, appeared in good health, and her occupation was that of a housekeeper. Upon this foundation, he was permitted to testify that he formed an opinion, in a general way, that she was at the time in question about 51 or 52 years of age. But the court says that it is not satisfied that a sufficient foundation was laid to render this evidence admissible, and, again, it declares that upon the facts disclosed by him the testimony of the physician was entitled to but little weight upon the question of the exact age of the insured.

Indictment and Dying Declarations in Abortion Case.—In State vs. Meyer, where the indictment charged an attempt, without lawful justification, to cause the miscarriage of a woman pregnant with child, the Supreme Court of New Jersey held that it was error to admit in evidence the dying declarations of the woman. The reason it assigned for this was that as the legislature, in the crimes act of 1898, declared the act of the accused to be high misdemeanor, whether the woman or child died in consequence thereof or not, the death of either was not an essential element of the crime, but was really a fact to be considered in fixing the penalty. But this reason the Court of Errors and Appeals of New Jersey does not think sound. It says that while it is true that the statute calls the prohibited conduct a high misdemeanor, whether the woman or child die in consequence thereof or not, yet, on due attention to all its provisions, it clearly appears to describe two high misdemeanors—one where the woman or child dies in consequence of the operation, and the other where death does not ensue. And it deems it indubitable that, to warrant the severer sentence, the indictment must charge all the statutory constituents of the more aggravated crime. Its distinguishing feature, the death of the woman or child as a consequence of the attempted abortion, must therefore be alleged in the indictment, and thus made the subject of investigation and proof at the trial. Then, when the death of the woman is thus charged as an element of the offense, necessary to be proved in order to establish against the accused the graver crime and subject him to the severer punishment, her dying declarations, the court holds, are legal evidence. It says that it is aware that the question whether dying declarations can be received when the indictment does not specifically charge either murder or manslaughter has been answered in the negative by some tribunals whose judgments are entitled to very great respect. Nevertheless, after due consideration of those decisions, it prefers to hold that, on the trial of an indictment charging the defendant with the statutory misdemeanor of attempting to cause the miscarriage of a woman pregnant with child, in consequence whereof the woman died, the dying declarations of the woman are legal evidence. Of course, under this decision, an accused person, the court goes on to say, may be exposed to the danger of having the dying declarations of a woman put in evidence when her death is charged as the consequence of an abortion, but is not fully proved to have resulted therefrom, and thus they may be used in the jury room as evidence to convict him of abortion merely, without resulting death. However, such a danger may always exist when evidence is legally received by the court for a purpose not ultimately accomplished, and must be guarded against, as far as possible, by appropriate instructions from the court.

Right of Applicant for Registration to Hearing.—Section 13 of chapter 63, of the New Hampshire Laws of 1897, provides that "every person who is a practitioner of medicine and surgery in this state prior to the passage of this act shall be, upon satisfactory proof thereof to the regent and upon the payment of a fee of one dollar, entitled to registration," and a certificate of the facts which shall entitle him to practice medicine. An applicant furnished statements of three residents to the effect that he attended them as a physician prior to the passage of the act, and a certificate of the city clerk that he had certified to a death in 1896. His application, however, was denied because he did not comply with a rule of the regent requiring the applicant to furnish certificates of a member of one of the medical societies mentioned in the act and of two well-known citizens that he was a practitioner of medicine and surgery. Now, a practitioner of medicine and surgery, the Supreme Court of New Hampshire says, in Hart vs. Folsom, is a physician and surgeon who habitually holds himself out for the practice of the profession. But the language quoted, it thinks, raises the question of whether it is enough for the applicant to show that he had been such a practitioner in the state at some time in the past, or whether he must show that he was one when the act was passed. The language, it says, seems to refer to the present time—"every person who is a practitioner"—and, although these words are qualified by the expression "prior to the passage of this act," it holds that they can not reasonably be held to refer to persons who had been practitioners, but had ceased to be such when the act was passed. So it thinks that a fair construction of the language is that only those physicians and surgeons who were in practice in the state when the act was passed are entitled to registration, a view which it believes is strengthened by a consideration of the purpose of the act. Then, it holds that it is the duty of the regent to issue a license to each applicant who comes within the provisions of the act. Whenever application is made under section 13, the regent must determine whether the applicant is a physician and surgeon, and whether he was engaged in practice when the act was passed. In performing this duty he acts in a judicial capacity, and is bound to receive and consider all evidence that legally bears upon the questions. If, for any reason, the applicant is unable to furnish such a certificate as the regent may require, the fact does not conclusively show that the applicant does not possess the necessary qualifications. Hence, in this case, while it denies that the applicant was entitled to a writ of mandamus to compel the regent to issue to him a certificate to practice medicine, the court holds that the regent should give the applicant a hearing, and admit all competent evidence bearing upon the questions at issue. If the evidence submitted amounted to satisfactory proof that the applicant was a physician and surgeon in practice in the state at the time of the passage of the act he should be registered; if not his application should be denied.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), January 5.

1 *The Prevention and Relief of Post-Operative Intestinal Obstruction. Clement Cleveland.
2 A Case of Estivo-Autumnal Fever With Unusual Symptoms. George L. Peabody.
3 Intestinal Indigestion. A. P. Stoner.
4 *On the Effect of Topical Applications of Excessive Strength, and Improper Diet and Hygiene in Prolonging and Causing Skin Diseases in Infants and Young Children. S. Sherwell.
5 *The Clinical Value of the Heart Reflex. Albert Abrams.
6 A Case of Perforating Gastric Ulcer. A. B. Atherton.

New York Medical Journal, January 5.

7 *Observations on Lateral Curvature of the Spine: Pathologic, Clinical, Mechanical. A. M. Phelps.
8 *The Mesial Relations of the Inflected Fissure: Observations Upon One Hundred Brains. Edward A. Spitzka.
9 *The Importance of a Knowledge of Ear Disease to the General Practitioner. William H. Thomson.
10 Some Observations Upon Specialism in the Arts and the Sciences Generally and Upon Specialties and Specialists in the Science and Art of Medicine Particularly. William Bodenhamer.
11 *A Contribution to the Symptomatic Treatment of Pulmonary Tuberculosis. J. R. L. Daly.
12 A Case of Acromioclavicular Dislocation and Its Treatment. Bernard E. Henrahan.
13 Sexual Intemperance. Jennie G. Drennan.

Philadelphia Medical Journal, December 29, 1900.

14 A Suitable Dress for Defense Against Infectious Disease. John S. Fulton.
15 *Rotary Lateral Curvature and Pott's Disease of the Spine; Their Diagnoses and Treatment. A. M. Phelps and D. W. Manton.
16 Fracture of the Extremities. G. G. Ross and M. I. Wilbert.
17 *Ovarian Cysts in Colored Women, With Notes on the Relative Frequency of Fibromas in Both Races. Daniel H. Williams.
18 On the Use of Formalin in the Dissecting-Room. William Keiller.
19 Some Anomalous Cases of Typhoid Fever. Augustus A. Eshner.
20 An Unusual Case of Achylia Gastrica. Frank H. Murdock
21 New Slide Lifter and Holder. A. H. Stewart.
22 Amputation of Both Feet, the Left Hand and the Right Hand, Saving the Little Finger and Part of the Thumb. J. S. Wright.

Philadelphia Medical Journal, January 5.

23 A Physician's Holiday at Karlsbad. James Tyson.
24 *Primary Branchiogenic Carcinoma. Frederick Shimanck.
25 *The Resources of Modern Minor Gynecology. Augustin H. Goelet.
26 *The Home Modification of Milk for Infant Feeding. L. Emmett Holt.
27 A Criticism of the Diagnosis "*Composite Teratoma of the Ovary*" Made in the "Pathological Report" of Dr. E. A. Jones. S. W. Bandler.
28 Some Cases of Tetany in Infancy. John L. Morse.
29 *The Relation of State and Local Boards of Health to Outbreaks of Diphtheria. G. E. Tyler.

Boston Medical and Surgical Journal, January 3.

30 *Experiment and Experience With the Rifle. Henry G. Beyer.
31 *Clinical Notes and Comments: Degenerative Disease of the Spinal Cord Associated With Anemia. Robert T. Edes.
32 The Differential Diagnosis of Intestinal Obstruction. Z. Boylston Adams.
33 A Physiologic Solvent in the Treatment of Pus Gases. Carl E. Munger.

Cincinnati Lancet-Clinic, January 5.

34 *Management of Pregnancy and Labor Complicated by Cardiac Disease. William Gillespie.
35 Treatment of Stricture of the Rectum. George J. Monroe.

Medical News (N. Y.), January 5.

36 *A Study of Eighty-One Cases Operated on Under Analgesia Obtained by Subarachnoid Spinal Cocainization. George R. Fowler.
37 The History, Aim and Purpose of the Medical Societies of the State and Counties of New York. Frank Van Fleet.
38 Pneumonia: Its Etiology and Treatment. D. L. Burnett.
39 *On the Prognosis of Hysteria: A Contribution to the Question of Fatal Hysteria. Joseph Fraenkel.

St. Louis Medical Review, January 5.

40 Some Notes on Dysentery in Hawaii. E. S. Goodhue.
41 The Successful Treatment of Intestinal Catarrhs. R. D. Moore.

Pediatrics (N. Y.), December 15, 1900.

42 *The Abortive Treatment of Pneumonia, Catarrhal and Croupous, in Infants and Children. H. Illoway.
43 Medical Supervision of Growing Children. John M. Taylor.

Medical Age (Detroit, Mich.), December 25, 1900.

44 The Treatment of Neurasthenia. Lewis R. Pierce.
45 *The Union of the Two *Diastatic Recti Abdominales* in a Single Sheath for Visceral Ptosis. Orville W. MacKellar.
46 *Musical Murmurs of the Heart. I. W. Trent.
47 *Hyperchlorhydria. Alois B. Graham.

Medical Fortnightly (St. Louis), December 25, 1900.

48 Observations Based on the Probable Mode of Formation of Urinary Stone Relative to Its Recurrence and Prevention. (To be continued.) Reginald Harrison.
49 Athetosis, With Report of Case. Emerson M. Sutton.
50 A Leaf from a Montana Physician's Diary. James E. Free.
51 The Treatment of Fever in Infants. H. M. McClanahan.

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52 *The Bacteriology of the Stomach. J. H. Kellogg.
53 *Treatment of Retro-Displacements of the Uterus. Edward McGuire.
54 An Analysis of Seventy-Two Cases of Coxalgia. Smith H. McKim.
55 Pharyngeal and Naso-Pharyngeal Growths. Wm. F. Mercer.

Medical Bulletin (Philadelphia), January.

56 Movable Kidney. W. Easterly Ashton.
57 Post-Typhoid Myelitis—Great Improvement. F. Savary Pearce.

58 History of Typhoid Fever with Statistics. James M. Anders.
59 The Treatment of Acute Colds. W. Blair Stewart.

Interstate Medical Journal (St. Louis), December, 1900.

60 *Notes on Fractures of the Major Bone Shafts Contiguous with or Involving the Articulations. Thomas H. Manley.
61 *A Case of Intermittent Hydrops of the Knee. Geo. W. Cale, Jr.
62 A Report of a Case of Malignant Jaundice Icterus, or Acute Yellow Atrophy. T. A. Martin.
63 *The Treatment of Perirectal Abscesses. John L. Jelks.
64 Surgical Clinic. (Prostatic Carcinoma, Parotid Cyst, Pyorrhea Alveolaris). Robert T. Morris.
65 The Quarantine of Shipping. Lawrence Irwell.

New Yorker Medicinische Monatsschrift, December, 1900.

66 Ueberanstrengung des Herzens und deren Beziehung zur Fragmentation des Myocards. F. Schwyzer.
67 Die Gonorrhea und unser Moderner Standpunkt in der Frage der Behandlung Derselben. Henry J. Scherck.

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68 The Gift of the Watson Collection to the Library of the Society.

American Journal of the Medical Sciences (Philadelphia). January.

69 *A Case of Multiple Fibromata of the Nerves, with Arthritis Deformans. Robert B. Preble and Ludvig Hektoen.
70 *The Relation of Cholelithiasis to Disease of the Pancreas and to Fat Necrosis. Eugene L. Opie.
71 A Report of a Case of Typhoid Pleurisy. H. C. Gordinier and A. Jerome Lartigau.
72 *Asthenic Bulbar Palsy. Charles W. Burr and D. J. McCarthy.
73 *A Study of a Case of Gonorrheal Ulcerative Endocarditis, with Cultivation of the Gonococcus. August J. Lartigau.
74 Obstructive Biliary Cirrhosis. William W. Ford.
75 *Dorsal Dislocation of the Trapezoid. John G. Sheldon.

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76 A Clinical Study of My Fatal Cases of Appendicitis. W. K. Oakes.
77 Surgical Treatment of Nasal Catarrh. Owen Smith
78 A Case of Congenital Cataract, with Operations and Results. David Webster.

Richmond Journal of Practice, December, 1900.

79 Treatment of Posterior Displacement of the Uterus. Stuart McGuire.

American Gynecological and Obstetrical Journal (N. Y.), December, 1900.

80 *Vaginal Versus Abdominal Hysterectomy for Cancer of the Uterus. H. J. Boldt.
81 *Drainage in Abdominal Surgery. J. W. Long.
82 *Treatment of Inflammatory Diseases of the Uterus by Irrigation. Frank W. Talley.
83 *Some Life-Saving Measures in Obstetric Work. R. R. Kime.
84 Left Lumbar Nephro-Fixation and Abdominal Myomectomy in One Sitting, with Report of Case. Andrew J. Downes.
85 *Proctorrhaphy: The Suspension of the Rectum for the Cure of Intractable Prolapse and Inversion of That Organ. Charles P. Noble.

Medical Examiner and Practitioner (N. Y.), December, 1900.

86 Duties of the Medical Examiner for Life Insurance. Edward K. Root.
87 A Word for the Local Examiner. D. Lichty.
88 Impressions. (Points in Diagnosis.) F. M. Johnson.
89 The Importance of Instruction in Medical Schools upon the Modification of Milk for Prescription Feeding. Andrew H. Whitridge.
90 The Lodge Question. Ernest Hall.
91 The Life Insurance Examiner. Miles H. Clark.

Oklahoma Medical Journal (Guthrie), December, 1900.

92 Physical Defects of School Children. Eunice B. Hamill.
93 *Is the Subarachnoidean Injection of Cocain the Preferable Anesthesia Below the Diaphragm? A. W. Morton.

American Journal of Obstetrics (N. Y.), December, 1900.

94 *The President's Address Before the American Gynecologic Society (The American Girl of To-day). George J. Engelmann.
95 *Accessory Adrenal Body in the Broad Ligament. Aldred S. Warthin.
96 The Treatment of Persistent Occipito-Posterior Positions of the Vortex. George L. Brodhead.
97 *The Removal of Pelvic Inflammatory Masses by the Abdomen After Bisection of the Uterus. Howard A. Kelly.
98 *A Case in Which Sexual Feeling First Appeared After Removal of Both Ovaries. A. Lapthorn Smith.
99 Remarks on the Technique in Dealing with the Pedicle in the Removal of Intrapelvic Growths and Structures. Richard R. Smith.
100 A Case of Congenital Ventral Hernia. Eustace L. Fiske.

Western Medical Review (Lincoln, Neb.), December 15, 1900.

101 Actinomycosis Hominis. D. W. Basham.
102 Secondary or Conservative Hemorrhage After Open Fracture or Amputation. Thomas H. Manley.
103 Lachrymal Obstruction. S. E. Cook.
104 Does the Thyroid Gland Influence Conception? E. C. Rankin.

Medical Times and Register (Philadelphia), December, 1900.

105 Treatment of the Newly Born Child. C. F. Markel.
106 Some Facts About Appendicitis. Medical and Surgical. J. H. Carstens.

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107 *Lupus Vulgaris of Fifteen Years' Standing Successfully Treated and Cured by Exposure to X-ray. A. Everett Smith.
108 *Cholelithiasis from the Surgical Point of View. Eugene A. Smith.
109 The Importance of the Position of Medical Examiner for Life Insurance. Frank W. Maloney.
110 Cirsoid Aneurysm of the Ear. William S. Cheesman.
111 Primary Sarcoma of the Tonsil: Removed by External Pharyngotomy. Nathan Jacobson.
112 Some Points in the Toilet of the Peritoneum. Charles E. Congdon.
113 Argonin in Gonorrhea. Nelson W. Wilson.
114 Case of Pedunculated Fibroid Removed. L. G. Hanley.

Colorado Medical Journal (Denver), December, 1900.

115 Mycosis of the Throat, with Report of a Case. F. E. Waxham.
116 *The Influence of Myth and Superstition on Medicine. W. W. Reed.
117 *The Symptoms, Prognosis and Treatment of Gastric Ulcer. W. T. Little.
118 Rupture of the Abdominal Wall During Labor. O. J. Pfeiffer.
119 A Case of Enormous Congenital Multiple Hemangiomata Cavernosa. Wm. N. Beggs.

Medical and Surgical Monitor (Indianapolis), Dec. 15, 1900.

120 Insanity. William B. Fletcher.
121 *A New Method for Coapting Superficial Incised Wounds. Arthur G. Bretz.
122 The Sixth International Otological Congress. Geo. F. Keiper.
123 Report of a Case of Parovarian Cyst in a Child Three Years Old. Joseph Eastman.
124 A Further Report of an Injury to the Eyeball. J. L. Masters.
125 Non-Specific Urethritis. N. E. Aronstam.

American Journal of Surgery and Obstetrics (St. Louis), December, 1900.

126 Treatment of Ankle-Joint Disease. Daniel W. Marston.
127 The Borderland of Mental Disease, from a Gynecologist's Standpoint, with Report of Cases Cured by Operation. Ernest Hall.
128 The Circles of Byron Robinson: The Utero-ovarian Circle and the Gastrohepatic Circle. William E. Holland.
129 Intestinal Strangulation Following Hysteropexy. C. P. Thomas.
130 Empyema in Children. Floyd M. Crandall.
131 Obstruction of the Bowels Following Operation. L. Brannon.
132 *The Management of Senile Enlargement of the Prostate, with Especial Reference to the Galvanocaustic Radical Treatment. F. Kreissl.

Merck's Archives (N. Y.), December, 1900.

134 Lavage—Its Indications, Materials, and Techniqe. Floy McEwen.
135 *Iodized Starch as a Therapeutic Agent. Leon L. Solomon.
136 Biniodid of Mercury in Diphtheria. J. Weichselbaum.
137 Treatment of Typhoid Fever. Alexander Thomson.

Southern California Practitioner (Los Angeles), December, 1900.

138 The Idylwild Sanatorium. (Strawberry Valley, San Jacinto Mountains, Riverside County, California.) Walter Lindley.
139 Inflammatory Diseases of the Uterine Appendages. E. E. Montgomery.
140 The Subarachnoid Injection of Cocain for Operations Below the Diaphragm. F. C. E. Mattison.
141 The Dangers of Venereal Diseases. A Warning to Medical Students and Others. Ralph Williams.
142 Climatology of California. C. G. Stivers.

Southern Practitioner (Nashville, Tenn.), January.

143 Smallpox—The Osborn Treatment—Biographical Sketch of Its Author, Thomas Crutcher Osborn, M.D. S. H. Stout.

Southern Medical Journal (La Grange, N. C.), December, 1900.

144 Operation for Obstructive Jaundice. Hugh M. Taylor.
145 Treatment of Acute Articular Rheumatism. J. W. P. Smithwick.
146 Secondary Anemia: Its Treatment. J. W. P. Smithwick.
147 Treatment of Erysipelas. J. W. P. Smithwick.

The Laryngoscope (St. Louis), December, 1900.

148 *Dentigenous Cysts. Frederic C. Cobb.
149 Notes on Turbinotomy. Chevalier Jackson.

150 An Adenoid Curette. Chevalier Jackson.
151 Treatment of Acute Inflammation of the Middle Ear. S. S. Bishop.

Carolina Medical Journal (Charlotte), December, 1900.

152 Treatment of Posterior Displacement of the Uterus. Stuart McGuire.
153 Dilatation of the Heart. Herman B. Allyn.
154 *Drainage in Abdominal Surgery. J. W. Long.
155 Bilateral Parotitis—Report of Case. C. Z. Candler.

Alabama Medical Journal (Birmingham), December, 1900.

156 Chronic Hypertrophic Rhinitis. C. H. Franklin.
157 Burns of the Skin: Their Pathology and Repair. G. S. Brown.
158 Acute Gastric Catarrh. A. N. Steele.
159 Uterine Fibroids. J. D. Gibson.

Medical Standard (Chicago), January.

160 Typhoid Fever: Symptomatology. J. T. Moore.
161 Serpiginous Ulcer of the Cornea; Pterygium. Herman H. Brown.
162 Acute Respiratory Diseases. Wm. F. Waugh.
163 Stirpiculture. Louis J. Rosenberg.
164 Intestinal Surgery. Adolfo Luria.

AMERICAN.

1. **Post-Operative Intestinal Obstruction.**—In this article the form of obstruction following abdominal section and indirectly due to it is referred to, not the adynamic type due to intestinal paralysis from peritonitis nor that due to opium, but to that caused by the plastic lymph given out from the peritoneum and favored by handling and by operative lesions of the bowels. The Trendelenburg posture, Cleveland claims, has an incalculably favorable influence in preventing this possibility. He thinks that before beginning to examine the pelvic contents after opening the abdomen it is wise to place the patient in the Trendelenburg posture and carefully cover the intestines with omentum when it is sufficiently developed, and with wet pads of gauze force them as much as possible into the upper abdominal cavity. It is necessary, as far as possible, to leave no raw surfaces, and to cover or cauterize every stump or particle of raw tissue. The use of decinormal salt solution to irrigate the abdominal cavity and leaving the cavity half filled on closing the incision is also commended, as the absorption stimulates the patient, lessens shock and may lessen also the amount of plastic lymph thrown out. The principal point, however, made by the author is the use of oxygen injections, and several cases are reported in which they were employed to advantage. Cleveland says he has been so much impressed with the efficiency of the insufflation of oxygen in every case where he has used it that he intends to always employ it hereafter after abdominal section whenever any obstructive symptoms begin to manifest themselves. It is easily obtainable, and its use is not attended with danger if ordinary care is observed. It not merely has the power to straighten out the intestines and open their lumen, but serves as a stimulant to the peristalsis. Four of the cases detailed were desperate, and in the last he is convinced that life was saved by this procedure. He also suggests that the gas may be absorbed to some degree and enter the general circulation in some form, possibly not as oxygen, and serve as a stimulant and tonic.

4. **Infantile Skin Disorders.**—Sherwell calls attention to the use of strong topical applications as the possible cause of skin eruptions in children, and thinks that the mercurial salves and preparations are especially sinned with in this way. They are usually far too strong for the ordinary use in infants. About 10 per cent. of the people, he thinks, have an idiosyncrasy which causes the milder salves and even pure vaselin to be irritating. Another cause, which he thinks is often responsible for the effect, is intestinal indigestion. Overfeeding is in many cases the primary cause of this trouble; also errors in diet, the use of coffee, tea, etc., in young children. Other points mentioned are the clothing, and he recommends for evacuations in children, mercury and chalk, in preference to rhubarb and soda, and possibly a little compound ipecac powder added.

5. **Heart Reflexes.**—Abrams calls attention to the fact that some years ago he described a phenomenon which he named the heart reflex, consisting in a contraction of the heart body from cutaneous irritation of the precardiac region. It can only be studied with the Roentgen ray. He also refers to another phenomenon which he calls the lung reflex, which can be observed without the aid of these rays. If the skin of the thorax is irritated, lung dilatation ensues. In a previous paper he has suggested the theory that the real factor involved in the Schott treatment was not due to baths and exercise as such, but to the cutaneous irritation provoked. and in accordance with this theory he has employed vigorous cutaneous friction with hand rubbing after immersions of fifteen minutes in a warm bath to increase the sensitiveness of the skin, and can claim results emulating those of the conventional Schott method. He sums up his conclusions in regard to this point as follows: 1. Lung dilatation follows the exercise and bath treatment, the lung acting as an excretory channel for the overburdened heart. 2. The cause of the lung dilatation is dependent on cutaneous irritation induced by the exercise and baths. 3. A decrease in the volume of the heart also ensues and is likewise provoked by cutaneous irritation. The physiology of the phenomenon is noticed, and he remarks that he regards the heart-reflex test as pathognomonic in differentiating dilatation of the heart from pericardial effusion. We have yet to learn its value as an index to the condition of the myocardium.

7. **Spinal Curvature.**—Phelp's article covers about the same ground as the one noticed below. See ¶15.

8. **Inflected Fissure.**—Spitzka's article is a discussion of the position and occurrence of the inflected fissure, which has been somewhat misunderstood by cerebral anatomists, as he points out. Out of 200 half-brains examined by him, absence of this fissure was seen in 40, where it occurred 22 times on the left and 18 times on the right, and it was symmetrical in both halves of 6 brains. In 91 per cent. of the remainder it was situated on a plane, caudad of an unmistakable cephalic paracentral limb, while in the remaining 9 per cent. this limb has become separated from the main paracentral stem by a narrow isthmus, but in all cases it was situated caudad whether separated or confluent; or in other words, the inflected fissure indented and lay partly within the paracentral gyrus. Other particulars in regard to the gyrus are explained in detail and the reader is referred to the original.

9. **Aural Disease.**—Thomson points out the necessity of attention to ear troubles by the general practitioner, and illustrates it by mistakes in his own experience. He mentions the different conditions that may puzzle the diagnostician and the complications that may render them dangerous. In conclusion he offers some remarks in regard to vertigo, especially the aural type. It creates the greatest disturbance of any vertiginous disorder.

11.—See Therapeutic Department.

15. **Lateral Curvature of the Spine.**—Phelps and Manton point out that not every case of so-called Pott's disease is really tuberculous. Deformities similar to those caused by tuberculosis are seen following absorption from Peyer's patches in typhoid fever. Another rare affection resulting in kyphosis is caused by inoculation of the actinomycotic germ, and still another closely simulating tuberculosis is found in osteomyelitis. The germs of osteomyelitis are much quicker in their action and will accomplish in a few days what in tuberculous affections would take many months. These four conditions are commonly included under one head as Pott's disease. Rotary lateral curvature is differentiated from tuberculosis of the spine in that it is never produced by primary inflammation. It is nearly always congenital or rachitic; paralysis of certain muscles, faulty habits of sitting, intercostal adhesions following pleuritic effusions, etc., may be its cause. In tuberculosis the diagnosis should be made before deformity occurs. As a rule, there will be night cries, pain in bending forward, spinal rigidity, etc. If the spine is flexible in its continuity there is no Pott's disease. If it is rigid this condition is certain to be present. In lateral rotary curvature the body of the vertebræ become absorbed by pressure on one side or the other. The treatment must be on rational principles. The authors describe various appliances, but especially favor

the aluminum corset as being practicable, indestructible, and when extensively perforated it makes the coolest and most agreeable of supports, and can be worn during bathing.

17. **Ovarian Cysts in Colored Women.**—The opinion that has been held for a long time that in the colored race ovarian cysts are rare is combated by Williams, who shows from various authorities that there is about as much likelihood of their occurrence in the colored race as in the white. The associated notion that fibromas were more frequent in the colored race than in the white is also contradicted by him. In sixteen years he has operated 357 times in both races and found about 2 per cent. more fibrous tumors in colored women than in the white. His work was in the Freedman's Hospital entirely for colored women, and in both races in private practice. The results are of some interest. He agrees entirely with Dr. Kelly, who has also a favorable geographical position for the study of the question, that myomas are not specially more frequent in the black than the white race.

24. **Primary Branchiogenic Carcinoma.**—Shimanck reports a case, which he thinks is rare, of carcinoma connected with branchial fissure, and reviews the literature of kindred cases.

25.—See abstract in THE JOURNAL, xxxv, p. 1172.

26. **Home Modification of Milk for Infant Feeding.**—Holt gives directions and formulas of the home modification of milk and says in conclusion that three primary formulas can be made to do duty for an entire year in the vast majority of healthy infants. With the method of calculation here given on the basis of 1/20, it seems to be much easier to pass from one formula to another of the same series than by other methods. Since the additions of sugar and lime-water are constant, it is necessary only to calculate the percentage of milk as increased by the ounce in each 20-ounce mixture. The diluent water is in all cases added in sufficient quantity to make the total. Larger quantities than 20 ounces can easily be calculated if our increase is made by 5, *e. g.*, for 25 ounces ¼ more of the milk, the sugar and the lime-water; for 30 ounces ½ more, etc. In securing the primary formula his preference is either for milk fresh from the cow, or the bottled milk, rather than for the mixtures of milk and cream, mainly for the purpose of securing greater freshness. Where milk is obtained fresh from the cow, if it is placed in a bottle and rapidly cooled in the manner indicated, not only will the cream rise quickly so that the food may be made up when the milk is only four hours old, but at the same time this rapid cooling is of the utmost advantage in checking the early fermentative changes in milk. In taking the milk from the top of the bottle it is to be remembered that the entire number of ounces specified for the primary formula should be taken, although it may not be needed to make up the milk for weaker formulas.

29.—See abstract in THE JOURNAL, xxxv, p. 579.

30. **Experiments and Experiences With the Rifle.**—Beyer's article is largely an analysis of Kocher's paper, "Zur Lehre von den Schuss-wunden," Cassel, 1895, and a comparison of the experimental results obtained by him, which coincide with the actual experiences reported in war by Senn, Nancrede, La Garde, Sir William MacCormac, Treves, Dent, and others. His conclusions coincide with those of La Garde, who says that we should conclude that the work of the experimenters agrees with the conditions found in war. The trained military surgeon can, he claims, be trusted to read the range in the character of the wound before him with at least the same accuracy as a range-finder can.

31. **Anemic Degenerative Diseases of the Spine.**—Edes reports several cases of spinal degeneration associated with anemia and discusses the condition. In one case there was a post-mortem and the results found were described. They consisted in isolated areas of degeneration in the lower lumbar region only in the posterior columns, but at the level of the first lumbar nerves there were distinct patches in the posterolateral columns and in the anterior horns. In the upper cervical region corresponding areas were also found, and in the medulla at the level of the olivaries, though ill-defined. The cause of the condition is attributed largely to toxemia rather than to anemia. It is possible that syphilis has something to do with the etiology, as English observers seemed to find this in a considerable proportion of cases. The symptoms are numbness, inability to use the hands for fine work, numbness of the feet, general weakness of motion and co-ordination, and deep reflex exaggeration. Later there may be more or less extensive anesthesia, absolute paralysis and absence of deep reflexes.

34. **Heart Disease and Pregnancy.**—The dangers of cardiac disorders in pregnancy are always obvious, but there are two possibilities: 1. Pregnancy is apt to relight an old endocardial inflammation, and the more recent the original attack the greater the danger. 2. Dangers from pregnancy affect women suffering from cardiac disease in proportion in which one pregnancy follows another. In a case of compensated valvular disease we rarely see failure in this respect in the first four months, but where compensation did not previously exist it is not likely to occur early in the pregnancy. The rational treatment in such cases is abortion, for a viable child is hardly to be expected and it would be folly to add to the overburdened heart the strain of useless pregnancy. In the second class the author includes the cases where lost compensation occurs in the last half of pregnancy and from great increase of the work of the heart the strain increases from day to day. Sometimes the failure is due to relighting of an old endocardial inflammation. When left to nature the chances are that the woman will not go to term. The question arises whether we should try to carry the mother past the seventh month, and if by the use of cardiac tonics the circulation can be restored we may be justified in waiting. Gillespie does not feel certain of the advisability of this course, but is not certain of the contrary. As a heart tonic, theoretically, the therapeutic action of strophanthus is preferable to digitalis, and is safer. Strychnia also produces good effects. The bowels should be looked after and absolute quiet insured, as exercise does not help the matter. If the condition of the heart does not improve and hyperemia of the liver manifests itself, and digestion is disturbed, and especially if the urine shows albumin with casts, medical treatment is useless. Whenever labor occurs, whether early or late, it must be conducted so as to incur as little strain as possible, and he does not think that anesthetics are contraindicated by cardiac disease. The usual methods will not suffice in induced labor. Rapid manual dilatation and extraction by the feet is the safest, as being the least exhaustive, and also offers the best possibilities of delivering a living child. The hydrostatic bags are applicable in many cases. A case is reported illustrating the points made in the paper. The author concludes that it is not safe to wait for development of the heart symptoms. They should be anticipated and in every case where the heart is in ill health forceps delivery is advisable as soon as compatible with other conditions.

36. **Spinal Cocainization.**—Fowler reports his experience in 81 cases up to the present time, in 26 involving the peritoneum. In 5 of these the analgesia was incomplete and in all the cases there was some embarrassment to the operator at one or another stage of the operation, such as vigorous peristalsis of short sections of the intestinal canal, and a certain amount of pain in 5 cases. The patients did not complain of a moderate Trendelenburg posture, but did express discomfort when an extreme pelvic elevation was employed for a long time. In 34 cases the operation was in the pelvic region, not involving the peritoneum. In two cases of varicocele the patients complained of pain when the cord was handled, but not enough to require additional anesthesia. In one case of colporrhaphy and perineorrhaphy the sensation returned too soon, and it became necessary to administer general anesthesia. In five amputation cases anesthesia was complete and the length of time it lasted was ample. In 15 cases in the lower extremities, not included in the above, a second injection was required to be made, and in one case of ligation of the internal saphenous vein the patient heard the operator call for a knife and afterward complained of pain on the slightest touch. In 3 un-

classified operations, including costal resection, nephrectomy and operation for suppurating dermoid, in the first operation the patient complained of pain when the periosteum and intracostal nerve were peeled off the bone. In the case of nephrectomy the patient disbelieved that the kidney had been removed, and in the case of suppurative dermoid the line of demarcation of anesthesia was slightly below the point where it was necessary to incise and curette. It persisted at the same height through the whole depth of the wound. The technique of the operation is described, its difficulties and certain disagreeable features that occur, such as vertigo, vomiting, involuntary defecation and urination, which occurred in about one-eighth of the cases, and were unpleasant both to the patient and to the operator. His cases were not selected ones. He has no personal knowledge of any deaths from spinal cocainization, and his experiments with other drugs than cocain are not altogether satisfactory, though he has found the combination of antipyrin and cocain to give somewhat better results so far as the analgesia was concerned. In spite of favorable results, he wishes to say that he does not consider this the ideal method of anesthesia, but that it will have an important place and sphere of usefulness. Further trial and the study of a large number of cases will be required to establish its limitations and dangers.

39. **Hysteria.**—Fraenkel has had three cases of fatal hysteria and discusses the possibilities. He asks three questions: Is hysteria curable? He answers in the affirmative. On what conditions does this curability depend? While we are still awaiting the pathologist's solution of hysteria, the answer to this question is somewhat difficult, but he is inclined to think that monosymptomatic cases are most indicative of serious lesions. The symptoms are generally discussed, and he divides the disease into three types: 1. Predominantly mental forms, hysteric psychoses with more or less pronounced somatic symptoms. 2. Predominantly cerebrospinal forms. 3. Predominantly splanchnic forms, where the symptoms are mainly of irritation or paralysis of the motor or sensory side of the splanchnic nervous system. In all these three groups we have the symptom-complex of hysterical seizures. The prognosis of the first two groups is, according to his experience, more favorable than the prognosis of that of the third, which has sometimes been disastrous. To answer the third question, "Is hysteria ever fatal?" he notices the authorities that previously reported fatal cases, and details his own. He accredits the deaths to: 1, spasm of the respiratory mechanism; 2, inanition from prolonged hysterical anorexia or vomiting; 3, paralysis of the circulatory or alimentary apparatus, in his last case with a pseudo-peritonitis or a pseudo-ileus. However, it may be with genuine uncomplicated hysteria, death, when it occurs, is due to irritation of the splanchnic and vegetative functions, and cases of this type are to be judged cautiously as regards their future prospects.

42. **Abortive Treatment of Infantile Pneumonia.**—Illoway answers the question whether pneumonia can be aborted, in the affirmative, according to his own experience, and maintains that we have long had the means wherewith to do it. He divides his cases into two groups, according to the therapeutic treatment adopted. In the first class he found benefit from the combination of tinctures of veratrum viride and of aconite, usually giving 6 drops of the veratrum and 2 of the aconite in a one-ounce mixture for children of several years of age and in proportion for infants—a teaspoonful at short intervals until four or five doses are taken and then at longer intervals. In each case the disease was quickly brought under control. In the second class of cases his treatment was infusion of digitalis, though the first combination of aconite and Norwood's tincture is the most powerful and preferably the method of medication. The doses, of course, are very small and the treatment is therefore comparatively safe. Another point of importance in the treatment of children is that it is pleasant to take.

45. **The Union of the Recti in Abdominal Ptosis.**—MacKellar reports a case of pronounced gastroptosis and nephroptosis of the right kidney in which the recti abdominales showed marked distinct diastasis. The operation to relieve the condition was the splitting of the sheaths of the recti muscles on the anterior surface and uniting the two in one sheath by suturing the sheath on the posterior and anterior side of the two enclosed muscles. The patient made a good recovery and passed through her pregnancy without any separation of the parts, and the visceral ptosis has remained practically cured.

46. **Musical Murmurs of the Heart.**—The opinions of authorities are first given by Trent, who then reports a case in which there was a continuous loud musical murmur of the heart from over the cardiac region with the greatest intensity about the mid-sternum on a level with the third costal cartilage. The sound was constant and so loud that it troubled the patient at night, keeping him awake, and other members of the family were also disturbed by it. It resembled the cooing of a dove. The man died suddenly; the post-mortem showed aortic insufficiency to a very marked degree, which was the cause of death. From this and the literature on the subject the author concludes that musical murmurs of the heart are freaks and are important simply as indicating serious organic lesions, and interesting only because of their rarity.

47. **Hyperchlorhydria.**—The points made by Graham in this article are the frequency of the condition and its easy diagnosis by the stomach-tube, and the importance of determining whether or not we have a primary or secondary hyperchlorhydria, and treating for the removal of the predisposing cause.

52. **Bacteriology of the Stomach.**—Kellogg's article reports the findings of bacteriologic examinations of the stomach fluid in various conditions, and his conclusions are summarized as follows: 1. A healthy stomach does not require the aid of germs in the digestion of foods. 2. Sterile food is digested in the healthy stomach without the development of bacteria or other micro-organisms. 3. Neither free hydrochloric acid nor combined chlorin, even when present in excess, is a certain means of sterilizing the gastric contents. 4. The gastric contents may be found sterile after a sterile test-meal in cases in which free hydrochloric acid is entirely absent and the proportion of combined chlorin small. 5. Fruits, especially fresh fruits, and fruit juices, are capable of completely sterilizing the stomach when used in sufficient quantity.

53.—This article has appeared elsewhere. See The Journal, xxxv, title 12, p. 1657.

60. **Bone Shaft Fractures.**—Manley reviews the subject of fractures of the long bones and summarizes his conclusions as follows: 1. The nearer the fractures of the bone shaft are located to the joint the more serious the result. 2. When complicated by subluxation, or when the fracture extends into the articulation, troublesome complications are quite certain in a large proportion of cases. In this class the osseous lesions may be non-important as compared with the change to the articular structures, large blood-vessels and nerves. 3. The symptoms of joint fracture are not unequivocal. There are no special characteristic symptoms in the pain of luxation, sprain or fracture. As a rule, after reaction sets in the suffering is greater in joint than in any other fractures. 4. The definite diagnosis of position and quality of intra- and extra-articular fractures is often difficult and sometimes impossible. When the fragments are not displaced, the application of great force under anesthetics to verify the diagnosis is unjustifiable unless the patient insists on it. In consequence of the frequent errors and uncertainties of the use of the X-rays without other confirmatory evidence their employment as diagnostic agents in these doubtful lesions is unreliable. 5. The primary treatment of closed intra-articular fractures or those in close proximity to the joint in general must be recognized on these fundamental principles everywhere. In intracapsular fractures at the hip, with proper antiseptic precautions, primary resection of the distal fragments will shorten convalescence, spare the patient needless suffering and leave a better limb than when the articular head is retained. 6. In a considerable proportion of aggravated cases in young persons, consecutive osteoplastic surgery will frequently give the

best results. This is only resorted to after acute symptoms have subsided.

61. **Intermittent Hydrops of the Knee.**—Cale reports a case of this condition, which he regards as a rare condition. One patient will have an attack occurring every eight days; another, occurring every eleven days, etc. In individual cases we rarely see any irregularity in the time of recurrence. Another peculiarity is that it disappears during pregnancy. He finds no mention of it in American text-books. He is inclined to consider it as possibly due to infection by some micro-organism having a regular cycle of life within the period of its occurrence.

63.—See abstract in THE JOURNAL, xxxv, p. 1048.

69. **Multiple Fibromata.**—Preble and Hektoen report very elaborately the post-mortem findings and pathologic examination of multiple fibromata in a case of arthritis deformans. They remark that the case is an extreme degree of a not uncommon condition, that of generalized neurofibromata, which is rather of more than ordinary interest because it presents certain rare if not unique features from the joint disorder and trophic changes in the skin. The general subject of neurofibromata is discussed. In this case besides the joint affections, which were those of well-marked arthritis deformans, there was ulceration similar to perforating ulcer of tabes, and the spontaneous gangrene of one foot was looked upon as also of trophic origin connected with the general condition.

70. **Cholelithiasis and Pancreatic Disease.**—The object of this article is to direct attention to the occurrence of pancreatic disease as a complication of gall-stone colic, the method of its occurrence and the nature of the lesions that occur. The anatomy of the parts is described and a case reported where lesions of the pancreas were associated with impaction of the stone near the orifice of the common ducts. It is held that the primary cause of lesions in and about the pancreas in this case was the interference with the outflow of pancreatic secretion from a lodgment of calculus in the common duct, and in support of this view Opie has collected a number of cases from the literature in which there were lesions of the pancreas with necrosis of surrounding fat or both, and lodgment of the gall-stones near the orifice of the common duct, thus showing the similar etiology of the symptoms. The author says in conclusion that should the lodgment of the stone occur in this position where it may at the same time compress and occlude the duct of Wirsung and become impacted, there are cases reported to show that one or several conditions may result: 1. An individual, usually in fairly good health, with perhaps a history of previous gall-stone colic, is suddenly attacked with pain in the epigastric region, accompanied by vomiting and followed by collapse. Death follows usually within forty-eight hours, and at autopsy gall-stones are found in the bile-passages, while that one which caused the fatal attack may still be lodged in the common duct near its orifice. The pancreas, is enlarged, infiltrated with blood, and hemorrhage may have occurred into the surrounding tissue. Foci of fat necrosis are usually present. 2. A fatal termination may not follow rapidly the symptoms mentioned. Pain in the epigastrium persists, jaundice may be present, and a tumor mass above the umbilicus may indicate a probable lesion of the pancreas. At the end of one or more weeks or months death occurs, often with symptoms indicating the presence of suppurative inflammation, presumably in the neighborhood of the gland. At autopsy the diagnosis of cholelithiasis is confirmed by the presence of gall-stones in the gall-bladder or in the bile-ducts, and occasionally the offending calculus is still lodged near the junction of the common bile-duct and the duct of Wirsung. The pancreas is dry, black and necrotic, and evidence of previous hemorrhage may be present. Secondary infection has occurred and the pancreas lies in an abscess cavity formed by the bursa omentalis. In the wall, and often widely disseminated in the abdominal fat, are foci of necrosis. Since the individual has survived the primary lesion, opportunity has been given for the development of secondary changes in the injured pancreas and neighboring fat. 3. In certain instances long-continued or repeated obstruction of the pancreatic duct by gall-stones does not cause the acute lesion described, but produces chronic inflammatory changes.

72. **Asthenic Bulbar Palsy.**—Burr and McCarthy report an additional case to the few already known of this obscure disorder. They ask, in discussing the condition, where is its locality and what is its nature. The morbid anatomy is at fault here and we are obliged to fall back on general physiologic and pathologic laws and draw inferences from analogous affections. They think there is little direct post-mortem evidence in favor of the bulb as the seat of disease. The slight changes that have been found were in it and the cranial nerves. While they are insufficient to cause the symptoms they may indicate the action of the toxins. The symptoms certainly point toward the bulb as the part first and most seriously affected. They conclude, considering everything, that it may be said with comparative safety that the affection is one of the lower motor neurons, but whether the cell bodies or the axons are the first and most affected can not yet be determined. Primarily the disease may be in the motor muscular end-plates. The disorder certainly looks like a toxic disease. It frequently follows some mycotic affection, and kills without visible wounds. In the case reported they are inclined to think that pregnancy had some positive influence. The patient was pregnant at the first onset, and again when the condition took a serious turn. The fact that pregnancy may seriously disturb metabolism in the kidney disorders, multiple neuritis, and the greater tendency of pregnant women to certain diseases is well known. In this case the smallness of the bulb, which was developmental not secondary, might have had some influence. What nervous elements were present were normal, but fewer than usual and may have been dynamically weaker. It is possible that the ill-developed bulb was unable to withstand the stress of pregnancy. The second case reported was that of a young woman who had complained of general neurasthenic symptoms and emotional disorders and dated her troubles from an attack of la grippe. With general weakness there was numbness of the limbs starting in the left arm and gradually extending. There was also slight vertigo, blurred vision, and occasional diplopia. The ocular muscles revealed nothing specially important excepting a constant right hyperphoria. There was a certain degree of facial paralysis which extended involving the entire side; excruciating pain in both ears, some trouble in hearing and a suggestion of bulbar paralysis. After a few months, however, she completely recovered. As regards the treatment of asthenic bulbar palsy the authors say there is no specific. Electricity is dubious, massage is useful and arsenic is the one drug that seems to be of benefit.

73. **Gonorrheal Ulcerative Endocarditis.**—From a study of the cases reported, Lartigau offers the following conclusions: 1. Gonorrheal urethritis may be the starting-point for a fatal septicemia induced by a pure infection with the gonococcus. 2. Endocarditis and arthritis are occasionally complications of such an infectious disease. 3. The endocardial processes may be incited by the gonococcus without the association of other organisms.

74. **Obstructive Biliary Cirrhosis.**—Ford reports the literature of cirrhosis of the liver with special reference to the frequency of the type which seems to stand in etiologic relationship with pressure on the common bile-duct of an enlarged gland of the hilum of the liver. Some twenty-four cases are more or less briefly reported. Ford concludes his paper as follows: From the study of the cases of cirrhosis seen in Montreal, and from a review of the cases reported by other authors, together with the observations of experimental pathologists, we are justified in drawing a number of general conclusions: Complete obstruction to the flow of the bile in animals produces a cirrhosis of the liver, interlobular in character, of considerable extent, provided the animals are allowed to live a sufficient time after primary operation. This cirrhosis is due to the damming back of the bile per se, and not to the inflammation of the walls of the smaller bile-channels. In man, complete obliteration of the bile-ducts caused by pathologic changes leads to cirrhosis of the liver which can not be explained simply by damming back of bile, but must be considered to have, as an

added etiological factor, that inflammation of the walls of the biliary channels which is invariably present. The type of the cirrhosis of the liver seen in man subsequent to obstruction of the bile-passages can not be differentiated anatomically from the type of liver seen in Hanot's hypertrophic cirrhosis with jaundice. The symptom-complex of obliterative cirrhosis is so absolutely different from Hanot's cirrhosis in the variety of its symptoms and in the frequency with which they occur as to justify the statement that obstructive biliary cirrhosis is a distinct morbid condition quite apart from any other variety of cirrhosis of the liver.

75. **Dorsal Dislocation of the Trapezoid.**—Sheldon reports a case of this rare condition, and reproduces the account of the only other case—that of Gay—which he has been able to find in the literature. After discussing the anatomy of the condition he thinks it probable that in Gay's case and in the one that came under his own care there was a congenital weakness or absence of the ligaments or a mal-development of the carpal bone or a combination of these conditions, which rendered an uncomplicated dorsal dislocation of the trapezoid possible.

80. **Vaginal vs. Abdominal Hysterectomy for Uterine Cancer.**—The advantages of each form of operation are discussed by Boldt, who finds vaginal hysterectomy has a smaller opening of the peritoneal cavity, greater rapidity of operation, less shock, more rapid convalescence, avoidance of abdominal wound, and lessening of direct mortality. The objection that one must work in the dark does not hold good excepting when the bladder is separated from the cervix and then the work can be kept within sight to a great extent by proper use of retractors. The advantage of abdominal hysterectomy is that it permits more extensive removal of the lymphatic and surrounding glands. The only case where its use is at present indicated according to his view is where the uterus is too large or too adherent to be removed by the vagina without morcellation and those cases where the diagnosis of glandular enlargement is made.

81.—See abstract in The Journal, xxxv, p. 1425.

82. **Uterine Irrigation.**—The treatment here suggested by Talley for chronic inflammatory disease of the uterus is irrigation with hot alkaline water, and he uses for this purpose a narrow canula provided with two wires so as to allow the return flow of irrigating fluid and permit the uterine canal to be washed to its entire extent. The canula is curved at its end to provide for easy introduction, perforated in every direction at its extremity and of such a size that it will easily pass through a No. 15 French catheter scale. It is attached to a fountain syringe of at least two quarts' capacity and a thermometer should be used to determine the temperature of the water. He has also used a speculum with a funnel through which the return fluid may pass without danger of wetting clothing or bed. The solution used is water with 1 dram of bicarbonate of soda to a quart and enough carbolic acid to render it mildly aseptic. He never has the temperature above 123 F. and usually somewhat less; about 110 at the beginning and gradually increasing it. It is important that the irrigation should be carried on until its secondary vasomotor effects are insured. Cases amenable to this form of treatment are those in which the cervical canal is patulous.

83.—See abstract in The Journal, xxxv, p. 1501.

85. **Proctorrhaphy.**—Noble reports three cases in which he operated by fixation of the rectum to the abdominal wall in case of prolapse of that organ. The operation he proposes is to open the peritoneal cavity by an incision made through the left rectus muscle slightly below the promontory of the sacrum, to search for the sigmoid or for the rectum and make traction upon it until it is inverted and the "slack" has been taken up. The point at which the lower portion of the rectum will come in contact with the abdominal wall on slight tension should be determined and this point attached to the abdominal wall by three or more fine silk sutures passed so as to include a portion of the rectus muscle and should pass under the anterior longitudinal band of the rectus. In this way the bowel can be firmly attached with less danger of penetrating its cavity and with the best prospects of producing permanent effects. The abdominal wound should then be closed by the tier method.

93.—This article has appeared elsewhere. See The Journal, xxxv, ¶98, p. 1511.

94.—See abstract in The Journal, xxxiv, p. 1338.

95. **Marchand's Adrenals.**—Warthin reports the case of an adrenal body found in the broad ligament, with its structural and microscopic examination, and discusses to some extent the literature. Noticing Aichel's paper, he adopts his suggestion to call these growths "Marchand's adrenals," since Marchand was the first to observe and describe them. He says in conclusion: It may be said that while Aichel's results need further confirmation, it is very probable that his view is the correct one, and that adrenal tissue is a normal constituent of the broad ligament. The practical importance of this is very great, and not only to the physiologist and pathologist, but to the clinician and gynecologist as well. Without doubt we have in Marchand's adrenals certain anatomical elements which may explain pathological conditions of the broad ligament and testis heretofore enveloped in mystery. Many tumors and cysts of these regions, whose origin is now unknown to us, may be shown by future observation to be derived from these little organs.

97.—See abstract in The Journal, xxxv, p. 1424.

98. **Sexual Feeling and Removal of Ovaries.**—In the case reported by Smith there were misplaced and inflamed ovaries causing the patient misery, with complete absence of sexual feeling. The ovaries were removed, as the patient had been under medical treatment for years without benefit. The result was restoration to health and complete restoration of sexual feeling, which had heretofore been absolutely absent. The cure seems to be permanent and he agrees with Lawson Tait that in cases of useless and diseased ovaries the removal of the diseased structure restores the normal conditions and does not unsex the woman.

107. **Lupus Vulgaris.**—Everett Smith reports a case of lupus of fifteen years' standing cured by application of the X-rays. A mask was made of sheet lead for the face, with a hole over the diseased portion, and this was exposed to the X-ray about every fifth day for about twenty minutes at a time, the surface being placed two inches from the light. In all, twelve treatments were given, and no medicine was used, even vaselin was denied him. After the second treatment healthy granulations appeared and healing was rapid.

108. **Cholelithiasis.**—Eugene Smith discusses cholelithiasis from the surgeon's point of view, reporting two cases to illustrate his points. He sums up the indications for operative treatment under two headings: In the first place, operate for biliary calculus obstruction along the bile-tracts which has in its train of sequelæ recurring colic, hydrocholecyst, persistent jaundice and cholemia; in the second place, operate for sepsis of the bile-tracts when it develops such dangerous conditions as suppurative cholangitis, suppurative cholecystitis or perforation of the duct or cholecyst. In both classes suffering and death are to be dreaded in the majority of cases more from the disease and its sequelæ than from the surgeon's knife.

116.—See abstract in The Journal, xxxv, p. 447.

117.—Ibid., p. 578.

121. **Incised Wounds.**—The method described by Bretz for coapting superficial incised wounds consists in fixing a piece of adhesive plaster on either side of the wound after thorough cleansing and putting the suture through the plaster instead of through the tissues themselves. In this way he thinks better coaptation is obtained than when it is put through the skin, is less painful; it avoids stitch-hole abscess, prevents stitch-marks, and there are no stitches to pull out. He illustrates the method for various forms of wounds.

132.—See abstract in The Journal of June 2, p. 1416.

133.—This article has appeared elsewhere. See The Journal, xxxv, p. 267.

135. **Iodized Starch.**—Solomon recommends the use of

iodized starch made by triturating 5 parts of iodin in a small quantity of water with 95 parts of starch slowly added and carefully rubbed until the mixture is regularly and uniformly a blue-black. It is slowly dried at a temperature not higher than 140 and carefully rubbed into a fine blue powder. We then have a 5 per cent. iodized starch, insoluble in water, with characteristic iodin taste and slight odor. It should be kept in glass-stoppered bottles. He has used this whenever iodin is indicated and thinks its action is prompt and in the proper dose energetic. The dose recommended by some authorities is, he thinks, too small. He has found from 3 to 10 grs. in capsule, pill or powder necessary to produce the desired effects. Its advantages are that it is physiologically an active preparation for both external and internal use and free from the irritation and caustic action of most of the iodin preparations. It is not objectionable to the senses and is stable enough to be kept indefinitely with reasonable care.

148. **Dentigenous Cysts.**—Cobb reports cases of this anomaly and concludes that the cysts are not, as Albarran suggested, due to epithelial secretion from the cells of the gubernaculum dentis, but rather, as Dr. Edward Briggs believes, an inflammatory process originating about the diseased teeth, which is characterized more by excessive secretion than by active destruction. The prognosis is also of interest, as he would not believe that so large a bony swelling as occurred in his cases would subside in so short a time. From this series he thinks dental disease can be eliminated and operation avoided. The salient points of treatment are free drainage and careful dental treatment.

154.—See abstract in THE JOURNAL, xxxv, p. 1425.

FOREIGN.

The Lancet, December 29, 1900.

Calcium Iodate as an Iodoform Substitute and Gastro-Intestinal Antiseptic. WILLIAM MACKIE.—After first noticing the work of Sonstadt in regard to this drug, the author gives the theory of its action as an antiseptic. It is an iodin compound containing 51 per cent. of iodin, and in addition 16 per cent. of available oxygen. On contact with putrescible organic matter, whether in acid or in alkaline media, it slowly liberates iodin. In alkaline solution, while the organic matter is being oxidized by the oxygen set free from decomposing iodate, the iodin by a reaction well known to occur in alkaline media slowly re-forms iodate, through the decomposition of water. The iodate so re-formed in contact with another portion of putrescible matter yields further proportions of free oxygen and iodin to act as before, and so on. The process is, therefore, a continuous one. As most pathologic discharges are alkaline we have in such cases the necessary conditions for the continuous action of the iodate. In acid media in the presence of reducing substances iodin is liberated and by the decomposition of water sets free oxygen, which is used up in oxidizing any unstable organic compound which may be present. The iodin in these cases passes into hydriodic acid or an iodid, and so eventually ceases to act. If, however, the acid is hydrochloric, as in the gastric juice, chlorin is liberated in the greatest abundance. Chemical equation shows that calcium iodate in contact with hydrochloric acid liberates nearly four-sevenths of its weight of chlorin, and on this fact its use theoretically as a gastrointestinal antiseptic is based. Something no doubt depends on the chemical instability of iodates generally, and on this one in particular, on the nascent action of the liberated products, and in this case that the base forms insoluble compounds such as carbonate and phosphate in contact with alkaline discharges, thus probably facilitating the free operation of the acid radicle, and on such its particular virtue depends. It would appear, therefore, that calcium iodate acts more as a destroyer of the products of bacterial life than as a bactericide. Mackie thinks, however, that its inhibitory power on bacterial growth can not be questioned, and it thus closely conforms to iodoform in its action. The function of the salt as a deodorant can be easily understood as a result of its chemical action. Iodates decompose sulphuretted hydrogen, precipitating it in part as sulphur, in part oxidizing it into sulphuric acid. The substance is easily prepared by any chemist by mixing iodin in a solution of potassium iodid with bleaching powder and washing with cold water. It is a white powder without taste or smell, soluble in 390 parts of water. Even in this solution, however, it is a powerful antiseptic, which he shows by reporting experiments similar to those made by Sonstadt. A piece of meat, for instance, was suspended in a saturated solution of the salt and found perfectly fresh at the end of a fortnight. A few grains of the dry salt thoroughly deodorized very fetid pus, etc. Cases are reported by the author, of fetid breath, septic wounds, discharges of ulcers, otorrhea, abscess, etc., treated successfully with this drug. He has also used it in cases of septic bladder, with advantage in all and perfect cure in at least one, also as a vaginal douche and for chronic urethritis. Speaking generally he says calcium iodate has been used in almost all cases where iodoform is commonly used. He has not, however, applied it to cut surfaces of amputation flaps, though he has in several cases powdered the sutured edges after minor operations for diseased conditions. In all operations where the surfaces are left to granulate he has used it by dusting the dry powder on the surfaces, and in no case has there been any irritating or toxic action. Even children do not complain of any smarting after its use. Its advantages as compared with iodoform may be summarized as absence of smell, checking of fetor, prevention of hyper-granulation, and the inhibition of undue formation of pus. It can be used, moreover, where iodoform is inadmissible, in gargles, washing out the bladder, etc. Internally he can testify to its efficiency in checking fermentative gastric changes. He has frequently taken 2 grains and sometimes repeated the dose twice and even a third time during the day without any inconvenience, and always with marked relief. It leaves a slight metallic taste in the mouth for a little while, but this is not observed after repetition. On the day after a dose of 2 grains there is a feeling of general well-being and increased appetite, and for this reason he is inclined to think that it has some tonic properties. Sonstadt took as much as 15 grains at one time with a very slight headache the next day, and such effects as might ordinarily follow a dose of quinin. Mackie would prefer to give the drug in solution, as he has noticed a feeling of heat in the epigastrium after swallowing the dry salt. Sonstadt's maximum dose of 15 grains is a long way in advance of any possible requirement. Three or four grains may be given as a fair average for the adult.

Circumcision as a Preventive of Syphilis and Other Disorders. E. HARDING FREELAND.—The writer argues for circumcision as a preventive of syphilis, showing statistics from Hutchinson and others giving reasons why this should be effective. He thinks that in the ordinary operation too much is left and too little is removed, and the protection in this regard is therefore lost. He would also advise, with the thorough removal of the prepuce, taking away a wedge-shaped piece of frenum and thus obliterating the folds which exist on its side. He believes that if the practice were general a great and lasting benefit would be induced.

On a New Method in the Discission of Soft Cataracts. PERCY DUNN.—This writer advises in the treatment of soft cataracts by discission to avoid increased tension by draining away the aqueous before withdrawing the needle. It is reasonable, he says, to conclude that the condition of the lens after the needling would determine the degree of restored tension. With a swollen lens the aqueous would probably only be re-secreted to the amount needful to restore the normal tension, and he does not think it possible to conceive that the glaucomatous symptoms could arise under these circumstances. Another advantage of the method is the possibility of freely breaking up the lens, and still another, the rapid absorption of the soft lens matter. A lowered tension implies a more rapid circulation of fluid through the eye and is exactly the condition of affairs to be most desired for rapid absorption. He reports a case in which he carried out these methods with the best results. The only possible untoward complication that could ensue is that of iritis originating from mechanical irritation caused by the presence of broken-up lens matter, but the doctrine that mechanical irritation *per se* can excite inflamm tion anywhere in the tissues is not one which at the present day receives support of scientific testimony. In senile cataract no difficulty is experienced in obtaining a fairly rapid absorption of the lental débris which it has been found impossible to remove after extraction of the lens, a result which he thinks is chiefly due to lowered tension in the eye caused by the necessary steps of the operation in this case.

Indian Medical Gazette, December, 1900.

The Cause of Beri-Beri. E. R. Rost.—From a suggestion in an article in the *British Medical Journal* of the connection between rice and beri-beri, Rost examined various rice waters and liquors and found one organism in all which is also found in damp rice, and in the prolonged examination of the blood of a beri-beri patient the same peculiarly shaped organisms were noticed. They were also later found in the cerebrospinal fluid, serous exudation, and in the sheath of the sciatic nerve on post-mortem. Cultures in sterile rice broth, beef broth, in blood, hydrothorax fluid and ascitic fluid were made and the morphology of the organism was observed. It is a diplobacillus, generally seen as an angular organism, developing by spores. Double dumb-bells are seen as well as single knobs or rods; it is easily stained by carbol-fuchsin. It multiplies with great rapidity, will grow best in rice broth, ascitic fluid and hydrothorax fluid, and with difficulty or not at all on solid media, except coagulated blood-serum. It was found that it can withstand a temperature of eight hours at 220 F., but after the ninth hour the cultures gave negative results. Sterilization for long periods is therefore necessary. He has found this organism in 32 cases of beri-beri in the blood. In rice it's appearance is that of a fibroid clammy coating sticking the granules together. He thinks rice-eating, and especially drinking rice liquor, is the principal cause. The most important point, he remarks, is its vitality, which calls for a better method of cooking rice than is often employed.

Presse Medicale (Paris), December 1, 22 and 26.

Rennet Ferment in Gastric Juice. L. Meunier.—Investigation of the rennet ferment in the gastric juice of forty-two individuals in various pathologic conditions showed a striking coincidence between the clinical prognosis and the amount of rennet action in the gastric juice. The rennet also affords valuable information in regard to the secretion of the gastric mucosa in the same way as the pepsin, while the tests are much easier than for the latter.

December 22.

Is the Bacillus Coli Agglutinated by the Serum of Typhoid Patients? P. Courmont.—The results of tests on twenty-five typhoid-fever patients showed that the bacillus coli, as a rule, was not agglutinated by their serum at any stage of the disease. When agglutination occurred it was very feeble, no more than is frequently observed in normal blood, and not at all proportionate to the intensity of the agglutination of the typhoid bacillus.

December 26.

Lavage and Ferric Chlorid in Treatment of Round Ulcer. R. Romme.—Bourget is not an advocate of surgical treatment of all cases of round ulcer. He thinks that good results can be attained by resting the stomach, diminishing the secretion of the irritating gastric juice, and aiding cicatrization with ferric chlorid. He accomplishes this by lavage of the stomach every other day with a 2 per cent. solution of ferric chlorid, supplemented by the administration of sodium bicarbonate in a 3 per cent. solution two or three times a day, three or four hours after meals, in amounts sufficient to neutralize the acidity of the gastric juice. He does not approve of rectal feeding, as it does not afford sufficient nourishment and as the secretion of the acid gastric juice continues. He also rejects milk and directs his patients to eat nothing but rice boiled in water with a little salt for one to two hours until it is a syrupy fluid. Later the water is replaced by milk: 50 gm. rice in a liter of milk, sweetened or salted, allowing about 200 to 300 gm. of the mixture at each meal, which, weight for weight, is as nourishing as white meat. The chief symptoms vanish in eight or ten days and a mixed diet can be allowed five days later, the sodium bicarbonate being continued.

Surgery of the Sympathetic for Neuralgia. J. Termier.—This is a recent Lyons thesis, inspired by Jaboulay, which reports the favorable results obtained in a number of cases of severe pelvic neuralgia, sciatica, etc., by resection of the sympathetic at various points. The operation most frequently practised was "décollement" or detachment of the rectum, which ruptures the sympathetic fibers connecting with the sciatic nerve. It was successful in curing several cases of neuralgia of this nerve and of different vasomotor disturbances of the lower members; also in a case of ataxia, in which the lightning pains were permanently abolished by it. Termier attributes the primal cause of a number of neuralgias to the ganglionary system and suggests discission of the peri-aortic fibers of the solar plexus in abdominal neuralgia and other affections possibly dependent on the abdominal sympathetic. He reports a number of cases of facial neuralgia cured or very much improved by resection of the cervical sympathetic.

Revue de Chirurgie (Paris), December.

Exclusion of the Intestine. F. Terrier and A. Gosset.—In this portion of the article, concluded from the August and November numbers, fifty-two cases of exclusion of the intestine are reviewed or described at length, with forty-four recoveries. Total occlusion of the excluded loop seems to be unanimously rejected now and exclusion with partial occlusion of the excluded loop is given the preference in cases of stercoral fistula or tuberculosis of the intestines. It is still a question whether in case of cancer which it is impossible to extirpate, unilateral exclusion is the best method of procedure, also whether the reflux of intestinal contents into the excluded portion is really to be feared.

Special Process for the Radical Cure of Inguinal Hernia. A. Le Dentu.—The method described by Le Dentu has been thoroughly tested by him during the last ten years and was the first of the "fold-operations," the second being Ricard's fold taken in the fibrous capsule of the shoulder-joint in case of recurring luxation and the third Le Dentu's application of the process to the knee. The simplicity and facility of the operation are great advantages, and also the fact that it is easier to secure the adhesion of broad flat surfaces than of narrow edges. The essence of the process is the loosening of the abdominal wall by inserting the finger beneath the external oblique and its aponeurosis after the hernia has been reduced and the sac taken care of. The abdominal wall is stretched by the forefinger until it forms a recess above the spermatic cord like the finger of a glove. A row of U-shaped stitches are then taken perpendicular to the axis of the fold thus raised, and when tied they reconstitute the wall with a double fold of muscle and aponeurosis. In case of extensive adhesions it may be necessary to split the fold down the center, otherwise proceeding as above. He uses catgut or silk, but observes that removable sutures of wire, if preferred, would probably answer the purpose equally well. He does not cite any cases, merely remarking that his results will bear comparison with those of other methods.

Cancer of the Large Intestine, Rectum Excepted. R. De Bovis.—This comprehensive study is concluded from five preceding numbers with a detailed description of nineteen unpublished cases and a number reported in Russian, Scandinavian and Dutch journals. In the first of the three personal cases there was a history of chronic constipation for two years, but no obstruction, diarrhea, nor blood nor pus in the discharges. When the patient, a woman of 57, entered the hospital, there had been obstruction for five days and vomiting, not fecal in character. The patient was much emaciated and there were considerable distension of the abdomen and tenderness in the right iliac fossa, which seemed a little fuller and less resonant than other portions of the abdomen. The intestine was retained outside of the abdominal cavity by a glass rod passed beneath it. The patient died, apparently from autointoxication. A small flat piece of bone had lodged on the stricture, which proved to be a small ring cancer of the sigmoid flexure. In another case, a robust man of 66, of good personal and family history, had symptoms of obstruction for eight days without vomiting. The abdomen was distended, particularly on the left side, but nothing morbid could be discovered before operating. The patient died from the results of an abdominal stercoral phlegmon, and on autopsy a small ring cancer, a scirrhus, was found as in the first case, at the sigmoid flexure. The distended loop had been held merely by a strip of gauze, which had allowed it to subside, thus favoring the production of the phlegmon. In a third case the patient regained comparative health after an artificial anus had been made in the sigmoid flexure. The evidence, however, was conclusive in regard to the existence of a lesion similar to the others—a cylindrical epithelioma—although the anatomic proof was lacking.

Semaine Medicale (Paris), December 19.

The Heart in Chlorosis. E. BARIE.—The palpitations, pain in the precordial region and false angina pectoris noted in neuro-arthritic or dyspeptic patients are merely functional disturbances common in chlorosis. The cardiac thrombosis and dilatation of the heart occasionally noted are more serious. In five cases recently observed by Barié the heart was unusually small. Hypertrophy has been noted by many clinicians, and also a false hypertrophy due to the displacement of the diaphragm, which pushes back the heart, as can be differentiated by fluoroscopy. When actual dilatation exists it is probably due to atony of the myocardium from defective nutrition, the adulterated blood not supplying the necessary elements, although Wybauw suggests that it is due to a general infiltration of the tissues by the diffused serum of the blood. He points out that the quantity of the urine increases, while the weight diminishes, when recovery commences. Virchow has suggested that the dilatation may be secondary to a specially narrow aorta, but in this case the lesion would persist. One of the features of chlorotic dilatation is its transient character. In case of dyspepsia the gastric disturbances are liable to cause a reflex action which is transmitted by the great sympathetic to the capillaries of the lungs and incites them to spasmodic contraction. This raises the blood-pressure in the pulmonary artery and hence the right ventricle dilates, sometimes to such an extent that functional tricuspid insufficiency is the result. This, in turn, is liable to produce a souffle at the apex, spreading distinctly toward the left axilla, strictly systolic and not modified by the position of the patient. On the other hand, if the souffle is weak, if it is above, either to the right or left of the apex, if it does not spread, if it occurs in mesosystole, and especially if it alters as the subject stands or reclines, it is a cardiopulmonary souffle—a sound occurring in the lung—rendered rhythmical by the movements of the heart.

Surgical Prothesis With Injections of Paraffin Into the Tissues. R. GERSUNY.—The first time this method was tried was on a man who was seriously depressed from the mutilation following an operation for tubercular orchi-epididymitis. Gersuny injected 8 c.c. of sterilized "white vaselin"—which is a mixture of solid and liquid paraffin, melting at 40 C.—into the left half of the scrotum and a fortnight later about the same amount into the right half. A fortnight later 3 c.c. were injected into the left half and 2 c.c. into the right. The result was extremely satisfactory. The scrotum presents the normal aspect as when contracted by cold, and on palpation the two round bodies on each side, of a hard consistency, simulate to perfection the missing testicles. This success encouraged him to inject paraffin into the uvula and velum of the palate in two persons who had been operated on for hare-lip, but were unable to articulate the syllable "ga." The parts were increased in size by the paraffin until the disturbance completely disappeared. In a case of incontinence of urine after an operation for a vesico-vaginal fistula, the function of the sphincter was restored by injecting a ring of paraffin around it. The paraffin does not change nor become absorbed and thus forms a permanent subcutaneous prothesis. He suggests that it may prove useful in raising sunken cicatrices, in correcting deformities after ablation of subjacent bone—the superior maxillary, for instance—and to supply a base to flattened noses and breasts. It may even prevent ankylosis if injected between the surfaces of the bones in operations on the joints, and can be removed later when a fibrous capsule has formed. Perivascular injections may arrest venous stasis and thus prevent varices, and hernia might also be controlled by appropriate use of paraffin in this way.

Centralblatt f. Chirurgie (Leipsic), December 22.

Sterilization of Sponges Without Injury. C. A. ELSBERG.—Applying to sponges the principles of his method of sterilizing catgut without injury, Elsberg states that they can be boiled for hours without losing any of their porosity, elasticity, softness or diminishing in size. He first cleanses them by soaking for twenty-four hours in an 8 per cent. solution of hydrochloric acid, which is afterward thoroughly washed out. They are next boiled for five to ten minutes in a solution of ten parts caustic potash and twenty parts tannic acid in a thousand parts water. They are then rinsed in sterile water or a solution of carbolic acid or sublimate until all traces of the brown potash solution have vanished, after which they are kept in a 2 to 5 per cent. solution of carbolic acid until needed. Large sponges infected with staphylococci, streptococci, anthrax and other bacilli and spores were always found sterile after boiling for even less than five minutes, in the potash and tannin solution, while they will bear repeated boiling without injury if the directions are followed.

Muenchener Med. Wochenschrift, December 4 and 25.

Advantage of the Curved Sound in Cases of Tumors of the Esophagus. H. STARCK.—The diverticulum sound has been found extremely useful at Erb's clinic in case of tumors of the esophagus. It penetrates where it is impossible to insert a straight sound. By turning it around, the tip constantly explores the periphery and finally locates the constriction and finds a passageway. An ordinary Nélaton catheter with a wire guide is curved at an angle of 180 degrees about 1.5 to 3 cm. from the tip. When this pathfinder has located the passage, larger sizes can be used and the lumen stretched until natural feeding can be instituted in some cases, or if not, a sound can be introduced for artificial feeding.

Significance of Alcohol in Disinfection of the Hands. E. BRAATZ.—The presence of air in the pores of the skin impedes the entrance of disinfecting fluids. Alcohol decomposes air ten times more rapidly than water, and hence allows the penetration of the fluids into the depths of the pores and crevices.

Success of Atropin in Intestinal Disturbances. P. OSTERMAIER.—Several writers have lately called attention to the advantages of subcutaneous injection of atropin in ileus and other intestinal disturbances. Ostermaier details several convincing observations, the result of a large experience with this remedy in cases of secondary reflex spasm or paresis of the intestines after calculus colic, lumbago, traumatism, etc., also in a few cases of appendicitis. He injects 1 mg. sometimes in two doses. The subjective disturbances rapidly disappear and in twelve to thirty-six hours a normal evacuation follows. Batsch reports one instance in which he injected 12 mg. in a few days in a case of intestinal perforation after difficult delivery. Boeck states that a fatal termination is rare even after taking 5 cg.

December 25.

Suprarenal Tablets in Addison's Disease. P. EDEL.—The first symptom of the disease was a sensation as if the region between the shoulder-blades was being pressed down and forward. Progressively increasing weakness was noted and the patient, a locksmith, hitherto healthy, was unable to work even for an hour a day. No remission had been observed at any time when the patient was first seen, six months after the first manifestations of the disease. In two or three days after the organotherapy had been instituted improvement was marked and in fourteen days the patient resumed his occupation. The pigmented patches also faded to their normal color and only traces of them around the eyes were still visible by the end of five weeks. The patient's manner of life was not altered in any way from usual during treatment. The autopsy, after a brief, intercurrent fatal tubercular meningitis, disclosed indications of quite general tubercular glandular lesions, including a nodule in the right suprarenal the size of a bean. The solar plexus and semilunar ganglion were imbedded in fibrous connective tissue.

Tubercular Peritonitis. R. Oehler.—It was possible to follow to date 39 out of the 44 patients with tubercular peritonitis treated at the Frankfurt clinic during the last five years. The participation of the umbilicus is the most reliable sign of the affection, in addition to the evidences of persisting ascites and cachexia. Out of the 39, 18 have died and 21 are alive and well to-day. It chiefly affects children, and death ensues in about half the cases, generally from meningitis, but otherwise from exhaustion and general debility, in the course of six to twenty-four months. In a large number of cases—51 per cent.—spontaneous recovery occurred in the course of one to two years.

Wiener Klin. Wochenschrift, December 20.

Difference Between Natural and Artificial Feeding of Infants. T. Escherich.—Is it possible, Escherich queries, that mother's milk contains some unknown substance which stimulates metabolism? This assumption would explain the inconsistencies observed and the results of natural feeding which in some cases indicate an almost specific reaction of the infantile organism to the mother's milk. The presence of such a ferment in mother's milk would include the child in the mother's metabolism somewhat in the same way as during placental circulation. It renders futile all our present efforts to approximate mother's milk in artificial feeding, but opens a path for future research which may yet lead to important results.

Tidsskrift f. d. Norske Laegef. (Christiania), December 15.

Retention of Urine from Retroversion of Uterus. E. Mo.—A woman of 45, ii-para, found micturition becoming painful and finally complete retention followed. The uterus was found in retrodisplacement and the urinary troubles ceased as soon as the organ was straightened.

Brazil-Medico (Rio de Janeiro), October 22.

Sero-Diagnosis of Yellow Fever. E. Meirelles.—This writer accepts the bacillus icteroides as the causal agent of yellow fever, and states that while it is very difficult to obtain the sero-reaction during the first stage of the disease, it can be obtained under certain conditions in the second stage and to perfection in the third stage, during convalescence and for a considerable time afterward. Dried blood serves as well as fresh, and old cultures are better than fresh. In a large number of patients with other infections it was impossible to obtain this specific sero-reaction for yellow fever. The prognosis may be based on the reaction to a certain extent, as the earlier it appears the milder the course of the disease in all his numerous tests.

Gazeta Med. Da Bahia, September, October and November.

Sodium Hyposulphite and Serum in the Plague. J. Penna.—Seventy-two patients were in Penna's care during the latest outbreak of the plague in Brazil, and he was much impressed not only with the benefits of serotherapy, but also of the subcutaneous injection of sodium hyposulphite in the vicinity of the bubo. His supply of serum was scanty and he was unable to administer the sufficient dose in many instances, but even with these drawbacks the mortality was only 19.3 per cent. among 36 patients treated with serum, excluding the moribund cases. The general mortality of the epidemic outside of the hospital was 50 per cent. He had found that a dog will bear the intravenous injection of 7 gm. of sodium hyposulphite in a 5 per cent. solution with no appreciable disturbance nor modification of the urine or corpuscles. He therefore ventured to administer it to man, injecting 1 gm. every three hours. Four died out of 20 patients thus treated, or 20 per cent., including one patient after thirty-one days of extensive gangrene of one of the buboes. The treatment was commenced from the first to the twelfth day of the disease in the fatal cases, death occurring the second, third, fourth and seventh day thereafter. The fever lasted an average of twelve days in the serum-treated patients, seventeen days in the 16 patients treated symptomatically and sixteen days in those treated with hyposulphite. The complete records of the cases of each group are tabulated, showing all the symptoms.

St. Petersburg Med. Woch., December 15.

Metastatic Choroiditis After Pneumonia. Germann.—During convalescence from a typical croupous pneumonia a purulent mestastatic irido-choroiditis appeared, with symptoms of meningitis and death in six days. Another fatal case is described in which croupous pneumonia was followed by endocarditis, embolic retinitis and panophthalmitis. Pure cultures of the diplococcus were derived from the anterior chamber. The only similar case described at length in literature was reported in 1892 by Herrnheiser, metastatic panophthalmitis with diplococci in the choroid, consecutive to croupous pneumonia, but Blessig, Eversbusch and Natanson have each observed a case of metastatic irido-choroiditis consecutive to influenza.

Vratch (St. Petersburg), December 15.

Mutual Relations Between the Bubonic Plague and Other Varieties of Hemorrhagic Septicemia. S. V. Konstansoff.—The writer's experimental research with hundreds of mice has established that preliminary active and passive immunization against hen cholera and swine plague due to the bacillus pestifer and bacillus suis, has no influence on the course of bubonic-plague infection. In the same way passive immunization against the bubonic plague does not affect the course of the infection from the above-mentioned coccobacilli. The absence of reciprocity between the immunization against bubonic plague and against the other varieties of hemorrhagic septicemia, indicates that the former has a special place apart in this group. He found antiplague serum a valuable differentiating means for the confirmation of bubonic plague. He also noted a marked contrast between even closely related forms of hemorrhagic septicemic infection in the faculty of resistance to a temperature of 45 C.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

American Text-Book of Physiology. By Henry P. Bowditch, M.D.; John G. Curtis, M.D.; Henry H. Donaldson, Ph.D.; W. H. Howell, Ph.D., M.D.; Frederic S. Lee, Ph.D.; Warren P. Lombard, M.D.; Graham Lusk, Ph.D., F.R.S. (Edin.); W. T. Porter, M.D.; Edward T. Reichert, M.D.; Henry Sewall, Ph.D., M.D. Edited by William H. Howell, Ph.D., M.D., Professor of Physiology in the Johns Hopkins University, Baltimore, Md. Second Edition, Revised. Vol. XI. Muscle and Nerve; Central Nervous System; Special Senses; Special Muscular Mechanisms; Reproduction. Cloth. Pp. 551. Price, $3.50. Philadelphia and London: W. B. Saunders & Co. 1901.

A Handbook of Genito-Urinary Surgery and Venereal Diseases. By G. M. Phillips, M.D., Professor of Genito-Urinary Surgery and Venereal Diseases, Barnes Medical College. Illustrated by Half-tone Cuts and Special Drawings by L. Crusius, M.D., Cloth. Pp. 313. Price, $2.00. St. Louis, Mo.: Lewis S. Matthews & Co. 1900.

Proceedings of the American Pharmaceutical Association at the Forty-eighth Annual Meeting, held at Richmond, Va., May, 1900. Also the Constitution, By-laws and Roll of Members. Cloth. Pp. 968. Baltimore, Md.: Published by the American Pharmaceutical Association. 1900.

Thirty-second Annual Report of the Secretary of State on the Registration of Births and Deaths, Marriages and Divorces in Michigan, for the Year 1898. Justus S. Stearns, Secretary of State. Edited by Cressy L. Wilbur, M.D., Chief of Division of Vital Statistics. By Authority. Cloth. Pp. 155. Lansing, Mich.: Robert Smith Printing Co. 1900.

State Medicine and Sanitation. The Relation of the Illinois State Medical Society to Sanitation and the Regulation of the Practice of Medicine in the State. By A. C. Corr, A.M., M.D., Carlinville, Ill. Paper. Pp. 40. Carlinville, Ill.: Macoupin Printing Co. 1900.

Transactions of the Medical Association of the State of Alabama. (The State Board of Health.) Organized 1847—Meeting of 1900. Montgomery, April, 17-20. Cloth. Pp. 564. Montgomery, Ala.: Brown Printing Co. 1900.

Proceedings of the Fifteenth Annual Meeting of the Conference of State and Provincial Boards of Health of North America. Atlantic City, June 1 and 2, 1900. Paper. Pp. 118. Providence: Snow & Farnham. 1900.

Proceedings of the Philadelphia County Medical Society. October, November. Paper. Philadelphia: Published by the Society.

Report of the Surgeon-General of the Army to the Secretary of War for the Fiscal Year Ended June 30, 1900. Paper. Pp. 411. Washington: Government Printing Office. 1900.

Thirty-first Annual Report of the State Board of Health of Massachusetts. Cloth. Pp. 812. Boston: Wright & Potter Printing Co. 1900.

Transactions of the Michigan State Medical Society for the Year 1900. Volume xxiv. Cloth. Pp. 552. Detroit, Mich.: Published by the Society. 1900.

The Present Position of the Treatment of Simple Fractures of the Limbs. An Address Delivered in Opening a Discussion at the Meeting of the British Medical Association held at Ipswich, August, 1900. By William H. Bennett, F.R.C.S., Senior Surgeon to St. George's Hospital. To Which Is Appended a Summary of the Opinions and Practice of about 300 Surgeons. Reprinted, after revision, from the British Medical Journal, Oct. 7, 1900. Cloth. Pp. 41. Price, $0.80. New York and Bombay: Longmans, Green & Co. 1900.

On the Use of Massage and Early Passive Movements in Recent Fractures and other Common Surgical Injuries and the Treatment of Internal Derangement of the Knee-Joint. Three Clinical Lectures Delivered at St. George's Hospital. By William H. Bennett, F.R.C.S., Senior Surgeon to the St. George's Hospital Reprinted, after revision, from The Lancet. With 12 Illustrations. Cloth. Pp. 97. Price, $1.40. New York and Bombay: Longmans, Green & Co. 1900.

Refraction and How to Refract, Including Sections on Optics, Retinoscopy, the Fitting of Spectacles and Eye-Glasses, etc. By James Thorington, A.M., M.D., Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine. Second Edition. With 200 Illustrations, 13 of Which Are Colored. Cloth. Pp. 301. Price, $1.50. Philadelphia: P. Blakiston's Son & Co. 1900.

King's American Dispensatory. By Harvey Wickes Felter, M.D., Adjunct Professor of Chemistry, Pharmacy and Toxicology, and Professor of Anatomy in the Eclectic Medical Institute, Cincinnati, Ohio, and John Uri Lloyd, Phr.M., Ph.D., Professor of Chemistry, Pharmacy and Toxicology in the Eclectic Medical Institute, Cincinnati, Ohio. Entirely Rewritten and Enlarged. Eighteenth edition. Third Revision. In two volumes. Vol. II. Cloth. Pp. 284. Price, $4.50 per volume. Cincinnati, Ohio: Ohio Valley Company. 1900.

A Manual of Surgical Treatment. By W. Watson Cheyne, M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London; and F. F. Burghard, M.D., M.S. (Lond.), F.R.C.S., Teacher of Practical Surgery in King's College, London. In seven volumes. Vol. IV. The Treatment of the Surgical Affections of the Joints (Including Excisions) and the Spine. Cloth. Pp. 370. Price, $3.75 net. Philadelphia and New York: Lea Brothers & Co. 1901.

Text-Book of Histology, Including the Microscopic Technic. *By Dr. Philip Stöhr, Professor of Anatomy at the University of* Würzburg. Third American, from Eighth German Edition. Translated by Dr. Emma L. Bilstein, Formerly Director of the Laboratories of Histology and Embryology, Woman's Medical College of Pennsylvania. Edited [illegible] ed Schaper, Professor of Anatomy, [illegible] 301 Illustrations. Cloth. Pp. 432 [illegible] P. Blakiston's Son & Co. 1900.

Experimental Research into the Surgery of the Respiratory System. An Essay Awarded the Nicholas Senn Prize by the American Medical Association for 1898. By George W. Crile, A.M., M.D., Ph.D., Professor of Clinical Surgery, Medical Department, Western Reserve University. Second Edition. Cloth. Pp. 114. Price, $2.50. Philadelphia: J. B. Lippincott Co. 1900.

A Guide to the Instruments and Appliances Required in Various Operations. By A. W. Mayo Robson, F.R.C.S., Senior Surgeon to the Leeds General Infirmary. Second Edition. Cloth. Pp. 62. Price, 2 s. 6 d. London, Paris, New York and Melbourne: Cassell & Co., Ltd. 1900.

The Essentials of Practical Bacteriology. An Elementary Laboratory Book for Students and Practitioners. By H. H. Curtis, B.S., M.D. (Lond.), F.R.C.S., Late Surgeon Registrar, University College Hospital. Cloth. Pp. 291. Price, $2.50. New York and Bombay: Longmans, Green & Co. 1900.

Comparative Physiology of the Brain and Comparative Psychology. By Jacques Loeb, M.D., Professor of Physiology in the University of Chicago. Illustrated. Cloth. Pp. 309. Price, $1.75. New York: G. P. Putnam's Sons. London: John Murray. 1900.

Transactions of the New Hampshire Medical Society, at the One Hundred and Ninth Anniversary, held at Concord, May 31 and June 1, 1900. Cloth, Pp. 333. Concord, N. H.: Ira C. Evans. 1900.

Medical and Surgical Reports of the Boston City Hospital. Eleventh Series. Edited by Herbert L. Burrell, M.D., W. T. Councilman, M.D., and Charles F. Withington, M.D. Pasteboard. Pp. 254. Boston: Published by the Trustees. 1900.

Change of Address.

F. P. Boyd, Chicago, to Lewiston, Minn.
W. W. Brown, Hebron, Ill., to Genoa Junction, Wis.
B. H. Burrell, Boston, Mass., to 1276 Logan Ave., Denver, Colo.
W. S. Bell, Bellaire, Mich., to Utica, Ohio.
R. K. Cole, Sedalia, Mo., to 151 W. 64th St., New York City.
S. T. Carswell, Fowlstown, Ga., to Luraville, Fla.
A. Cornelius, 489 W. Van Buren St., to 430 W. Randolph St., Chicago.
D. W. Craig, 356 Webster Ave., to 93 Sigel St., Chicago.
J. J. Clausen, Rialto Bldg., to 2311 Summit St., Kansas City, Mo.
J. A. Corn, City Hospital, to City Hall, Kansas City, Mo.
M. De Tar, Kansas City, Mo., to Kinsley, Kan.
L. Freeman, California Bldg., to 1843 Franklin St., Denver, Colo.
H. A. Gant, Water Valley, to Jackson, Miss.
H. A. Habenicht, 1934 Sherman Ave., to 1650 Tremont St., Denver, Colo.
R. N. Hall, 943 Madison St., to 339 Warren Ave., Chicago.
J. C. Hastings, 18 Bishop Ct., to 670 Monroe St., Chicago.
H. R. Johnson, Springerville, to Safford, Ariz.
J. B. Killebrew, 107 N. Conception St., to 105 St. Joseph St., Mobile, Ala.
E. K. Kerr, 1323 Washington Boul., to Cook County Hospital, Chicago.
G. E. Lyon, 188 S. Lincoln St., to 213 Winchester Ave., Chicago.
E. A. Lawbaugh, 237 LaSalle Ave., to Marshall Field Bldg., Chicago.
G. M. Luckey, 742 W. Adams St., to 806 Jackson Boul., Chicago.
J. K. Lewis, Argentine, Kan., to 1212 Troost Ave., Kansas City, Mo.
J. P. LaBarre, 317 Roland Ave., to 220 E. Montgomery St., Baltimore, Md.
G. McF. Mood, Summerville, Ill., to Summerville, S. C.
N. A. McCurdey, 735 Church St., to 371 Freemason St., Norfolk, Va.
B. MacMonagle, 610 Market St., to 590 Sutter St., San Francisco, Cal.
J. H. Metzger, 732 Jackson Boul., to 483 Ashland Boul., Chicago.
R. J. McDonald, 707 W. Harrison St., to 57 Flournoy St., Chicago.
H. M. Martin, 607 Van Buren St., to 274 Ashland Boul., Chicago.
A. A. Nichols, Atlanta, to Ivy Log, Ga.
V. V. Norton, Chicago, to Waverly, Iowa.
J. C. Paine, 124, to 2725 N. Adams St., Peoria, Ill.
C. Passudetti, Chicago, to Iron Mountain, Mich.
John Stout, Pender, to 1624 S. 10th St., Omaha, Neb.
J. C. Spencer, Crocker Bldg., to 590 Sutter St., San Francisco, Cal.
W. M. Shultz, 1871 Lafayette Ave., to 823 14th St., Denver, Colo.
O. L. Suggett, Jefferson Ave. and Olive St., to Commercial Bldg., St. Louis, Mo.
M. K. Scott, 1409 Troost Ave., to University Medical College, Kansas City, Mo.
G. E. Thompson, 72 Marietta, to 1 Chamberlin St., Atlanta Ga.

New Patents.

Patents of interest to physicians, Dec. 18 and 25:

664,351. Siphon-filler and mineral water charger. John H Fox, New York City.
664,318. Making soluble casein. Wm. A. Hall, Bellows Falls, Vt.
663,969. Massage chair. John M. Johnston and O. Vanorman, Los Angeles, Cal.
663,995. Germ-destroyer for telephone-mouthpieces. Lewis L. Lacey, Austin, Texas.
664,282. Vapor bath cabinet. George W. Merker, Belleville, Ill.
663,997. Atomizer, Roland Morrill, Benton Harbor, Mich.
663,978. Sanitary appliance. Arthur O'Brien, Helena, Mont.
664,308. Electrotherapeutic spectacles. Thomas B. Zeller, Pittsburg, Pa.
664,377. Guaiacolated serum and making same. Fernand Bellio [illegible]
[illegible] ration for medical use. Fernand Berlioz, Grenoble, France.
664,398. Abdominal support. Huldah S. Gates, Rosedale, Kan.
664,482. File for prescriptions. Harry I. Jeffers, Aberdeen, Miss.
664,495. Pessary. Horace M. Paine, Atlanta, Ga.
664,796. Rectal irrigator and insufflator. Rody E. Warner, Pittsburg, Pa.
664,516. Machine for manufacturing capsules for bottles or the like. Eduard Watzke, Friedberg, Austria-Hungary.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Dec. 27, 1900, to Jan. 2, 1901, inclusive:

George W. Adair, major and surgeon, U. S. A., member of retiring board convened in Chicago.

William B. Banister, major and surgeon, Vols. (captain and asst.-surgeon, U. S. A.), member of a board convened in Manila, P. I., for the examination of candidates for admission to the medical department of the army.

Alfred E. Bradley, captain and asst.-surgeon, U. S. A., member of a retiring board at St. Paul, Minn.

William H. Brooks, acting asst.-surgeon, from Fort Schuyler, N. Y., to San Francisco, Cal., for duty with troops en route to Manila, P. I., and subsequent assignment in the Division of the Philippines.

Marshall M. Cloud, lieutenant and asst.-surgeon, U. S. A., sick leave of absence extended.

Louis W. Crampton, major and surgeon, U. S. A., member of a board convened in Manila, P. I., to examine candidates for admission into the medical department of the army.

Calvin De Witt, lieutenant-colonel, deputy surgeon-general, U. S. A., member of a retiring board at St. Paul, Minn.

Thomas W. Jackson, acting asst.-surgeon, former orders amended so as to assign him to temporary duty at the general hospital, Presidio, San Francisco, Cal.

Theodore C. Lyster, lieutenant and asst.-surgeon, U. S. A., from duty in Cuba to Fort Schuyler, N. Y.

Walter Reed, major and surgeon, U. S. A., to represent the medical department of the army at the Pan-American Medical Congress, to meet in Havana, Cuba, Feb. 5, 1901.

William E. Richards, lieutenant and asst.-surgeon, U. S. A., leave of absence on account of sickness extended.

Major A. W. Shockley, lieutenant and asst.-surgeon, U. S. A., from duty in the Department of Cuba to Fort Niobrara, Neb.

Hobert E. Warren, acting asst.-surgeon, to duty as examiner of recruits at Denver, Colo.

Clark I. Wertenbaker, acting asst.-surgeon, from Fort Niobrara, Neb., to San Francisco, Cal., for duty with troops going to Manila, P. I., and subsequent assignment in the Division of the Philippines.

J. Samuel White, acting asst.-surgeon, former orders amended to direct him to report to the commanding general Department of California for duty at the general hospital, Presidio, of San Francisco, Cal.

In addition to the above orders, the following was issued Jan. 2, 1901: The following named acting asst.-surgeons, U. S. A., will proceed from the places hereinafter designated to San Francisco, Cal., and report in person to the commanding general, Department of California, for assignment to duty with troops en route to the Philippine Islands, where, upon arrival, they will report in person to the commanding general, Division of the Philippines, for assignment to duty:

John H. Allen, [illegible] C.; Henry D. Brown, from Denver, Colo.; [illegible] from Summerville, S. C.; Lawrence McEvoy [illegible]; Frederick H. Mills, from Buffalo, N. Y.; Joseph Pettyjohn, from Augusta, Ga.; Richard J. Price, from Wilmington, N. C.; Joseph W. Reddy, from Boston, Mass.; Shannon Richmond, from St. Joseph, Mo.; Anton R. Schier, from Burlington, Iowa; Alfred T. Short, from Montrose, Colo.; Robert S. Spilman, from Washington, D. C.; Theodore H. Weisenburg, from Philadelphia, Pa.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Jan. 5, 1901:

Surgeon R. P. Crandall, detached from the U. S. T. S. *Constellation*, upon reporting of relief, ordered to temporary duty in connection with recruiting at Milwaukee, Wis., and then home to wait orders.

Surgeon W. A. McClurg, detached from the *Indiana*, and to naval training station, Newport, R. I., as the relief of Surgeon R. F. Crandall.

Asst.-Surgeon J. M. Brister, ordered to the *Independence*, Jan. 13, 1901.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Jan. 3, 1901:

Surgeon George Purviance, relieved from duty at Baltimore, Md., and directed to proceed to Washington, D. C., reporting at the bureau for duty.

P. A. Surgeon C. P. Wertenbaker, to proceed to Shreveport, La., for special temporary duty.

P. A. Surgeon W. G. Stimpson, to proceed to Denver, Colo., for special temporary duty.

P. A. Surgeon B. W. Brown, relieved from duty at Cape Charles quarantine and directed to proceed to Baltimore, Md., and assume command of the service, relieving Surgeon George Purviance.

Asst.-Surgeon C. W. Wille, to assume temporary command of Cape Charles quarantine, relieving P. A. Surgeon R. W. Brown.

Asst.-Surgeon J. W. Amesse, on being relieved by Asst.-Surgeon L. P. H. Bahrenburg, directed to proceed to Manila, P. I., and report to chief quarantine officer for duty.

Asst.-Surgeon B. J. Lloyd, granted leave of absence for 18 days from Dec. 11, 1900.

Asst.-Surgeon L. P. H. Bahrenburg, Bureau order of Dec. 27, 1900, directing Asst.-Surgeon Bahrenburg to proceed to Manila, revoked, and directed to proceed to Honolulu, H. I., reporting to the chief quarantine officer for duty.

Acting Asst.-Surgeon J. E. Bready, granted leave of absence for 4 days from Jan. 2, 1901.

Hospital Steward W. W. Kolb, granted leave of absence for 30 days from Jan. 29, 1901.

Hospital Steward E. T. Olsen, granted leave of absence for 5 days.

CASUALTY.

Acting Asst.-Surgeon A. R. Booth, died at Shreveport, La., Dec. 27, 1900.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Jan. 4, 1901:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, Dec. 15-22, 1 case.

Florida: Jacksonville, Dec. 15-22, 1 case.

Illinois: Cairo, Dec. 15-22, 3 cases; Chicago, Dec. 22-29, 2 cases.

Kansas: Wichita, Dec. 22-29, 2 cases, 1 death.

Nebraska: Decatur, April 1-Dec. 14, 416 cases, 4 deaths.

New Hampshire: Manchester, Dec. 22-29, 14 cases.

New York: New York, Dec. 22-29, 11 cases, 2 deaths.

Ohio: Ashtabula, Dec. 22-29, 5 cases; Cleveland, Dec. 22-29, 20 cases.

Rhode Island: Central Falls, Dec. 26, 1 case.

Tennessee: Memphis, Dec. 22-29, 2 cases; Nashville, Dec. 22-29, 1 case.

Texas: Galveston, Dec. 17, 6 cases; Houston, Dec. 22-29, 25 cases, 1 death.

Utah: Salt Lake City, Dec. 22-29, 52 cases.

West Virginia: Wheeling, Dec. 15-22, 3 cases.

Wisconsin: Green Bay, Dec. 23-30, 1 case.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, Oct. 1-30, 22 cases, 14 deaths.

Austria: Prague, Dec. 1-8, 26 cases.

Egypt: Alexandria, Nov. 26-Dec. 10, 4 cases, 4 deaths.

England: London, Dec. 1-15, 2 cases.

France: Paris, Nov. 24-Dec. 1, 103 cases, 17 deaths; Dec. 1-8, 152 cases, 14 deaths.

Greece: Athens, Dec. 1-8, 1 case.

India: Bombay, Nov. 21-27, 1 death; Calcutta, Nov. 17-24, 8 deaths; Madras, Nov. 17-23, 1 death.

Italy: Licata, Dec. 8-15, 1 death.

Mexico: Vera Cruz, Dec. 15-22, 1 death.

Russia: Moscow, Nov. 24-Dec. 1, 3 cases, 1 death; Odessa, Dec. 1-8, 23 cases, 7 deaths; St. Petersburg, Dec. 1-8, 5 cases, 3 deaths; Warsaw, Dec. 1-8, 15 deaths.

Scotland: Glasgow, Dec. 15-21, 67 cases, 3 deaths.

YELLOW FEVER.

Cuba: Havana, Dec. 8-22, 6 deaths.

Mexico: Vera Cruz, Dec. 15-22, 1 death.

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India: Bombay, Nov. 21-27, 2 deaths; Calcutta, Nov. 17-24, 35 deaths; Madras, Nov. 17-23, 1 death.

PLAGUE.

India: Bombay, Nov. 21-27, 58 deaths; Calcutta, Nov. 18-24, 4 deaths.

Japan: Osaka, Nov. 30-Dec. 4, 4 cases.

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PAPERS READ AT THE ANNUAL MEETING.

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NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

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The Journal of the American Medical Association

VOL. XXXVI. CHICAGO, ILLINOIS, JANUARY 26, 1901. No. 4.

Original Articles.

THE DIAGNOSIS OF DIABETES MELLITUS.*

JAMES B. HERRICK, M.D.
CHICAGO.

The crucial test in the diagnosis of diabetes mellitus is the examination of the urine for sugar and the determination of the question as to whether the glycosuria is transitory or not. In practice, however, it is impossible to examine the urine of all patients. While the routine first examination of the urine of every new patient and the frequent examination of the urine of old patients will detect many cases of diabetes that might otherwise escape notice, one must of necessity be directed toward the uranalysis by certain symptoms that lead one to suspect the existence of this disease. The common symptoms are great thirst, weakness and emaciation in spite of an excessive appetite, subnormal temperature and polyuria. With these classical symptoms well-marked, the attention is quickly drawn to the probable nature of the malady and the sugar found. But in many cases these symptoms are not prominent or some other symptom is so pronounced as to attract the attention of both patient and physician in another direction. It is well, therefore, to be familiar with the rarer and more atypical manifestations of the disease, and particularly because many of these symptoms appear early and in the milder cases, which, if taken in time, may be materially improved by treatment. Many of these phenomena that I shall describe as symptoms are in reality complications, but I shall refer to them, rather loosely, perhaps, as symptoms, as something occurring because of the diabetes, indicating its possible existence and therefore of aid in diagnosis. To enumerate them all here would be undesirable and impossible within the limits of this paper. I shall restrict myself, therefore, to points that have seemed to me, from reading and practice, of the greatest value, striving to emphasize those most apt to be lightly passed over and passing lightly over those that are so clearly emphasized by the experience of every practical physician as to need but passing comment.

Nervous System.—Poor nutrition and toxemia will account for the many manifestations of disturbed function on the part of the nervous system. Neuralgias are common, especially sciatica, which is apt to be bilateral, a condition, however, that I have never seen in diabetes, though I have been on the look-out for it for twelve years. Polyneuritis is occasionally seen, especially in the diabetic who is also alcoholic. Neuralgia or neuritic pains in the legs with the loss of patellar reflex—a common event in diabetes—and an uncertain gait may readily lead to a diagnosis of true tabes; and this latter condition may occasionally be found with diabetes. Trophic disturbances, such as falling out of the nails, bullæ, herpes zoster and perforating ulcer, are sometimes seen. Peripheral motor paralysis, as in the abducens or the spinal accessory, has been seen. Cerebral palsies recalling the paralyses of uremia and of lead poisoning are sometimes met with, an aphasia, monoplegia or even a hemiplegia being present with no anatomical lesion found post-mortem. These are distinct from the hemiplegias due to cerebral hemorrhage from the sclerotic vessels so commonly met with in diabetes. Headache and dizziness, one or both, caused ten of Naunyn's patients to seek advice of a physician. Sleeplessness or drowsiness, even narcolepsy, are sometimes present.

The eye may give evidence of diabetes by errors of accommodation, paralysis of the external muscles, by retinitis, more rarely optic atrophy or by cataract. Rapidly developing double cataract in the young should arouse suspicion of diabetes.

Besides furuncles in the external ear, which is not at all uncommon, suppuration of the middle ear may occur, and several observers have called attention to the early and rapid involvement of the mastoid in these cases. Eulenstein[1] has recently reviewed the entire subject.

Two symptoms that seem to deserve special notice are impotence and psychic disturbances. In some cases undue sexual excitability may be present. In most, however, a distinct loss of sexual vigor is noted and is often a source of much worry. About six years ago a colored medical student asked me to see him for a cough and great weakness. The cough I found due to tuberculosis complicating diabetes. This, by the way, is the only case of diabetes in the colored I have seen. This latter condition he had been aware of for about a year, but was very bitter in his denunciation of many doctors in many towns whom he had consulted during the preceding five years for impotence, all of whom, as he said, took his money but did not examine his urine. Not until he came to Ann Arbor did a physician examine the urine and tell him his impotence was but a manifestation of diabetes. I have known other cases in which impotence induced the patient to seek aid of the physician. It is often a very early symptom.

The psychic disturbances of diabetes, while dwelt upon by French writers, are, it seems to me, slighted by many, and among others by no less an authority than Naunyn. In several instances I have seen marked psychic disturbances. An old lady imagined that at night people came into her room, conversed with her, brought her things to eat, etc., and the next day related as facts these imaginary events. A man of 60 became cross, irritable and unreasonable, where before he had

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* Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Deutsches Archiv f. Klin. Med., Bd. lxvi, p. 720.

John H. Allen, from Washington, D. C.; Henry D. Brown, from Denver, Colo.; William F. Graham, from Summerville, S. C.; Lawrence McEvoy, from St. Louis, Mo.; Frederick H. Mills, from Buffalo, N. Y.; Joseph Pettyjohn, from Augusta, Ga.; Richard J. Price, from Wilmington, N. C.; Joseph W. Reddy, from Boston, Mass.; Shannon Richmond, from St. Joseph, Mo.; Anton R. Schier, from Burlington, Iowa; Alfred T. Short, from Montrose, Colo.; Robert S. Spilman, from Washington, D. C.; Theodore H. Weisenburg, from Philadelphia, Pa.

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District of Columbia: Washington, Dec. 15-22, 1 case.
Florida: Jacksonville, Dec. 15-22, 1 case.
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Nebraska: Decatur, April 1-Dec. 14, 416 cases, 4 deaths.
New Hampshire: Manchester, Dec. 22-29, 14 cases.
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Besides furuncles in the external ear, which is not at all uncommon, suppuration of the middle ear may occur, and several observers have called attention to the early and rapid involvement of the mastoid in these cases. Eulenstein[1] has recently reviewed the entire subject.

Two symptoms that seem to deserve special notice are impotence and psychic disturbances. In some cases undue sexual excitability may be present. In most, however, a distinct loss of sexual vigor is noted and is often a source of much worry. About six years ago a colored medical student asked me to see him for a cough and great weakness. The cough I found due to tuberculosis complicating diabetes. This, by the way, is the only case of diabetes in the colored I have seen. This latter condition he had been aware of for about a year, but was very bitter in his denunciation of many doctors in many towns whom he had consulted during the preceding five years for impotence, all of whom, as he said, took his money but did not examine his urine. Not until he came to Ann Arbor did a physician examine the urine and tell him his impotence was but a manifestation of diabetes. I have known other cases in which impotence induced the patient to seek aid of the physician. It is often a very early symptom.

The psychic disturbances of diabetes, while dwelt upon by French writers, are, it seems to me, slighted by many, and among others by no less an authority than Naunyn. In several instances I have seen marked psychic disturbances. An old lady imagined that at night people came into her room, conversed with her, brought her things to eat, etc., and the next day related as facts these imaginary events. A man of 60 became cross, irritable and unreasonable, where before he had been of a quiet, mild disposition. Diabetes was discovered just before he went into a fatal coma. A physician of 55 grew, as he expressed it, ill-natured and ugly of disposition; he scolded, burst out into fits of anger that would drive his wife weeping from the table; then in remorse he contemplated suicide. His wife told me she feared he would take her life or his own and she thought he must be insane. The diagnosis of diabetes once made and treatment instituted, his disposition changed back to its old character, and he became once more the jovial, good-natured man and the kind and indulgent father and husband. This case well illustrates the improvement in the mental condition that follows improvement in the underlying disease, a characteristic of the psychic disturbances in diabetes with the exception of the more chronic and more fully developed cases.[2]

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* Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Deutsches Archiv f. Klin. Med., Bd, lxvi, p. 720.

Alimentary Tract.—Dry mouth, stomatitis, gingivitis, falling out of the teeth are so common as to need only mention. Dilatation of the stomach from overdistension with atony may be extreme. And it is surprising how with the enormous increase in size the stomach often seems functionally perfect, digesting food rapidly and with no apparent retardation of absorption or propulsion. I have seen the greater curvature nearly to the symphysis pubis and yet none of the subjective phenomena of an enlarged and functionally imperfect organ. Constipation is often extremely distressing, Vomiting and diarrhea when they occur and persist should be regarded as possible forerunners of coma, or at least of rapid loss of strength. The gastric juice shows no constant changes. An enlarged liver may be fatty or the cirrhotic liver sometimes seen, particularly with the bronzing of the skin—the diabetic bronze of the French.

The Skin.—The itchy skin should attract attention to the urine for the possible presence of sugar as much as for bile or albumin. The tendency to local suppuration of the skin, often of a sluggish character, is well known. Many a diagnosis of diabetes has been made because furuncles or carbuncles have caused the physician to suspect diabetes. Eczema, dermatitis, especially about the genitalia, and balanitis, should lead to a similar suspicion. The gangrene of the extremities is probably in all cases to be referred to the sclerotic condition of the vessels, as in the ordinary senile gangrene. Perforating ulcer of the foot with other trophic disturbances of the skin has already been referred to.

The Circulatory System.—Arteriosclerosis is a common finding in diabetes, at times to be regarded as a sequence of the prolonged toxemia, but often as a result of the gout, syphilis, old age or heredity, that may also be a causal antecedent of the diabetes. Absence of enlarged heart and thickened vessels does not, however, by any means exclude diabetes, for in some cases no cardiac changes are present and there may be even atrophy. To the arteriosclerosis are to be attributed many of the complications and accidents, such as gangrene, cerebral hemorrhage, myocarditis with perhaps acute dilatation or angina pectoris, and the sclerotic kidney.

The Blood.—From a diagnostic standpoint little is to be learned from the blood. Lipemia is not uncommon. There are no characteristic alterations in the red or white corpuscles. The color reactions of Bremer[3] and Williamson[4] are of confirmatory value and might enable one to recognize a diabetes even without glycosuria. Williamson has obtained his reaction from the blood of a known diabetic at a time when the urine was free from sugar.

The Urine.—There is little that is characteristic in the urine that is of great diagnostic value aside from its containing sugar. It is generally increased in amount, light in color, of a sweetish odor, of high specific gravity and acid in reaction. Albumin and casts may be present without other evidence of nephritis. Genuine nephritis may supervene, and under these circumstances the sugar may disappear. Many variations from the normal urine as regards its chemical composition are of pathological, perhaps of prognostic, interest, but can not be given much value when viewed from the standpoint of diagnosis. Variations in the amount of creatin, uric acid, oxalates, sulphates, and phosphates possess little clinical interest. The presence of aceton, diacetic acid, Beta-oxybutyric acid and the amount of ammonium excreted, are of greater value in prognosis and therapy than in diagnosis. The readiness of the saccharine urine to ferment is sometimes shown by the occurrence of this process in the bladder; cystitis may thus arise. Even pneumaturia has been noted.

The attention once directed to the urine, either as a part of the routine examination of a patient or because of some of the symptoms already enumerated, the diagnosis is generally readily made. Yet cases may be overlooked and it is well to consider the possible sources of this error. We may divide these errors into three groups and say that diabetes is not recognized because: 1. There is an error in the examination for sugar. 2. The urine is not examined for sugar. 3. There is no sugar in the urine at the time of examination.

1. Error in the technique of the examination will not be here considered.

2. The urine may not be examined for sugar.

The classical symptoms may not be present and the complications may not be recognized as possibly of diabetic origin. It is surprising how many of the milder cases of diabetes have little or no polyuria, emaciation or weakness and how readily a slight increase in the thirst and appetite may be overlooked. These are the individuals who, regarding themselves as in perfect health, apply for life insurance and who are surprised to learn from the examining physician that there is sugar in the urine. When such a patient consults a physician for a neuralgia, constipation, pruritus, balanitis, sexual weakness or because he feels a little run down in the spring and wishes a tonic, the trifling character of the complaint with the absence of marked classical symptoms of the disease may lead the physician rather carelessly to omit the uranalysis. And this is particularly liable to occur in the case of the family physician who has known his patient for years, has frequently examined him and prescribed for trifling ailments, and who may know that the urine on the occasion of previous examinations has been entirely normal.

The classical symptoms may be, or at least may have been, present but are so overshadowed in the minds both of the patient and physician by some serious complication that no thought of diabetes occurs. Pseudotabes or genuine tabes, cerebral hemorrhage, angina pectoris may so dominate the case as to cause one to overlook an underlying diabetes. And a dyspnea in a patient with thickened vessels and enlarged left heart, with somnolence deepening to coma may pass as uremia when there is an albuminous urine loaded with casts, a condition not at all uncommon in diabetic coma.

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[2] Noorden: Diabetes, in Twentieth Century Practice, ii, p. 115.

[3] Medical News, February, 1895, and elsewhere.

[4] British Medical Journal, Sept. 1896.

And I would here emphasize the fact that casts are very common in diabetic coma. This phenomenon, to which attention was first called by the late E. Külz, and which has been confirmed by Aldehoff,[5] Williamson and others, is worthy of note for two reasons. 1. It may give warning of the approach of coma, being occasionally seen even in the prodromal stage. Külz described such cases and Williamson has seen the same thing occur. I have seen casts in the urine in four cases of diabetic coma, in fact in all the cases of this form of coma I have seen since my attention was first called to Külz's phenomenon by reading Williamson's book.[6] In one case, that of a man about 60, the urine on standing showed a light yellowish or grayish sediment that consisted of an enormous number of the typical short, finely granular "coma-casts," as Aldehoff calls them. There were as many casts in a field as I have ever seen in any nephritic urine. There was but a trace of albumin. A few weeks ago the urine of a woman with diabetes revealed no casts in the centrifugalized specimen. Two days later coma began and casts were abundant. 2. A knowledge of the occurrence of casts in the urine of diabetic coma will enable the physician to avoid mistaking this form of coma for uremia, because of the albumin and casts.

On examining the urine it may be found of low specific gravity and on this account the examination for sugar may be deemed unnecessary. This is a grave error. The sugar-containing urine of diabetes may be of low specific gravity from a variety of causes. Strümpell says that it may be low when there is pronounced debility. The development of chronic interstitial nephritis will lower the specific gravity and might offer an explanation for the increased amount of urine and the thirst, as well as for other symptoms. In the latter part of April of this year I examined a man of 54, a diabetic, which diagnosis had been made two years before. He had a consolidated left apex. The total urine for twenty-four hours was 1500 c.c., it contained a moderate trace of albumin, casts, a small amount of sugar. Its specific gravity was but 1012. Another cause for low specific gravity is the drinking of large amounts of fluids. A patient of mine drinking large amounts of some spring water kept the specific gravity between 1015 and 1019, yet there was always sugar in the urine. Another patient after drinking beer all the morning passed urine with a specific gravity of 1004 and yet containing abundance of sugar. Cases with a specific gravity as low as 1002 are reported. And in the series of cases of Külz, many times records of 1010 or under were made. The importance, therefore, of examining for sugar even when the specific gravity is low is clearly seen, and the rules of some of our life insurance companies requiring such examination only when the specific gravity is above 1015 or 1020 need radical revision.

There may be no sugar in the urine at the time of examination.

At times a prediabetic or prodromal polyuria is seen without glycosuria; and as the sugar disappears in cases of permanent or temporary recovery there may be a non-saccharine polyuria.

When chronic interstitial nephritis occurs sugar may diminish, or even entirely disappar.

Acute infectious diseases, as pneumonia, influenza, typhoid fever, frequently cause a temporary disappearance of the sugar. These infectious diseases are often wrongly assigned as the cause of diabetes. For if a patient with pneumonia shows no sugar in the urine and a week after defervescence sugar appears and remains, one could readily reach the conclusion that the pneumonia was the exciting cause of the glycosuria, when in reality exactly the opposite is the fact; the sugar formerly present has disappeared under the influence of the acute infection only to reappear later.

The glycosuria in some of the milder forms of diabetes may be periodic or cyclic, reminding one of the cyclic albuminurias. An examination at a sugar-free period would therefore lead one to a false conclusion, unless subsequent control examinations were made, and especially examinations following a known diet of carbohydrates—similar to the test for alimentary glycosuria.

In conclusion, I would call attention to the importance not only of diagnosing the diabetes, but of recognizing the variety of the disease. While the classifications are all more or less artificial, they are yet valuable, and if we make no sharper distinction than between mild, moderately severe and severe types, our treatment will be far more rational and effectual and our prognosis far nearer the truth than if we make merely one large class including all cases of diabetes. Due consideration of the age, tendency to obesity, heredity and of organic disease of the pancreas or nervous system as an etiologic factor enables one to recognize the type. And of especial value is it to note the effect of withdrawal of carbohydrates. In many of the milder types, particularly in the obese adult, the sugar can be made quickly to disappear from the urine by proper diet, while in severer forms, in spite of most rigid diet, sugar persists. It is not always the amount of sugar that determines the severity of a given case; it is rather the amount in comparison with the amount of carbohydrates in the diet.

DIABETES MELLITUS.

THE MORTALITY THEREFROM IN THE CITY OF NEW YORK DURING THE PERIOD FROM 1889 TILL 1899; FROM THE OFFICIAL RECORDS. COMMENTS.*

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It is an exceptional occurrence that the mortality statistics of diabetes mellitus are closely studied. This has been especially the case with the pertinent statistic material of American communities. The principal cause for this omission lies undoubtedly in the supposed rare appearance of the affection. It is possible that diabetes in bygone years, before the strong current of immigration had set in, was of less frequency on this continent and that the proportion of deaths following this condition was smaller than it is to-day, but it is also possible that the American practitioner of some generations ago did not recognize the disease as readily as we modern Esculapians do.

The mortality statistics of the American metropolis in regard to diabetes mellitus, heretofore, were hardly ever thoroughly revised and studied. I am greatly indebted to Dr. Roger S. Tracy, one of the eminent statisticians of this country and the registrar of the New York Board of Health, for the assistance he so generously has lent me in the compilation of the statistic material and for the privilege of granting me access to the original documents. This communication treats only of a portion of the relevant matter—the elaboration of other statistics, especially those for the year 1899, I have reserved for another communication.[1]

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[5] Külz's Klinische Erfahrungen über Diabetes, 1899.

[6] Herrick: Notes on Diabetes, Amer. Jour. Med. Science, July, 1900.

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TOTAL MORTALITY FROM DIABETES MELLITUS.

Year.	Males.	Females.	Total number.
1889	71	47	118
1890	72	58	130
1891	64	66	130
1892	66	57	123
1893	76	61	137
1894	87	79	166
1895	95	108	203
1896	98	116	214
1897	95	107	202
1898	108	130	238
1899	104	102	206
Total in years	936	931	1867

Of 1867 deaths from diabetes mellitus, 931, that is, almost 50 per cent. occurred in females. This proportion differs widely from the supposition that the affection is much more fatal in males than in females. Former mortality reports have shown that from two to two and a half times more men succumbed to this malady than women. That in both sexes the death frequency from diabetes mellitus should be so equally proportioned may be partially attributed to the struggle for existence from which the modern woman is no longer exempt. Moreover, it is but consequential to assume that the death-rate from diabetes mellitus stands in direct proportion to the frequency of the disease itself, and that in New York City about equal numbers of both sexes are afflicted with it.

The following table gives the population of New York City—Manhattan and Bronx—estimated for July 1, in each year, total deaths, total death-rate per 1000 of the population, death-rate from diabetes mellitus per 1000 of population, and deaths from diabetes per 1000 deaths, from 1889 till 1899, inclusive.

Year.	Population	Total deaths.	*Total death-rate per 1000.*	*Death-rate from D. M. per 1000 population*	*Deaths from D. M. per 1000 deaths.*
1889	1,566,801	39,679	25.32	0.07	2,95
1890	1,612,559	40,103	24.87	0.08	3.25
1891	1,659,654	43,659	26.31	0.08	2.95
1892	1,708,124	44,329	25.95	0.07	2.8
1893	1,758,010	44,486	25.30	0.08	3.11
1894	1,809,353	41,175	22.76	0.09	4.05
1895	1,879,195	43,420	23.11	0.11	4.72
1896	1,934,077	41,622	21.62	0.11	5.09
1897	1,990,562	38,879	19.53	0.10	5.18
1898	2,048,830	40,438	19.73	0.11	5.95
1899	2,117,106	39,911	18.85	0.09	5.15

The death-rate from diabetes mellitus varied for the different years between 0.07 and 0.11 for each 1000 of the population. In the influenza year—1889 till 1890—the mortality from diabetes mellitus per 1000 of the population amounted to but 0.8—that is, the second lowest figure in the table. It is a remarkable fact that while the total death-rate has been in a rapid decline—25.32 per 1000 population in 1889, to 18.85 per 1000 population in 1899—the mortality-rate from diabetes mellitus per 1000 population has been on the increase since 1894.

The deaths from the affection per 1000 total deaths were from the minimum 2.8, in 1892, to the maximum 5.95, in 1898.

While the increase in the death-rate from diabetes mellitus per 1000 of the population during the past six years—1894 till 1899—inclusive, is plainly noticeable, the increase of deaths attributed to diabetes mellitus per 1000 total deaths is still more striking. From 1889 till 1893, inclusive, the average mortality from this disease per 1000 reported deaths amounted to 3.01; for the following six years, 1894 till 1899, inclusive, the proportion rose to 5.02, an increase of 66 per cent.

On the other hand, the increase of the death-rate from diabetes mellitus per 1000 of population, from 0.076, the average of the lustrum 1889-93 to 0.1, the mean of the past six years, amounts to but 25 per cent.

While the death-rate from diabetes mellitus per 1000 of the population for the period of 1894-99 is larger by 25 per cent. than that of the five preceding years, the deaths from diabetes mellitus per 1000 reported deaths had increased 66 per cent. for the same periods, or in other words, notwithstanding an absolute and relative increase, the latter in its proportion to 1000 inhabitants, *the greater frequency of the fatal termination of diabetes* compared with the total mortality is mainly due to the better and more general recognition of the disease. Formerly uranalysis was performed by but comparatively few physicians, and the true nature of the affection was not always recognized, and death, in many instances, was ascribed to other diseases than diabetes.

MORTALITY FROM DIABETES MELLITUS ACCORDING TO MONTH AND SEX—1889-99.

Year.	January.		February.		March.		Record for quarter; April 17 till June 9. April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.
	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	
1889	6	1	5	3	8	6	6	3	6	3	5	3	4	4	4	6	2	4	8	7	3	4	14	3	118
1890	*13*	6	6	8	8	6	3	5	4	1	5	8	5	3	3	6	2	4	11	2	5	3	7	6	*130*
1891	6	5	7	4	7	6	6	6	1	8	6	4	6	2	5	6	8	6	4	7	4	4	4	8	*130*
1892	3	2	6	7	5	6	6	5	1	6	6	2	5	6	6	6	7	3	10	5	7	4	4	5	123
1893	5	4	8	6	8	1	4	7	6	8	6	3	4	5	8	8	5	5	6	3	6	6	10	5	137
1894	4	11	6	4	6	6	10	4	6	4	10	7	6	6	10	3	7	9	11	7	4	8	7	10	166
1895	10	8	11	9	11	13	7	14	15	8	7	4	4	6	8	8	5	3	6	10	4	13	7	11	203
1896	8	7	8	7	4	15	11	14	9	4	9	11	5	8	8	12	8	11	12	13	6	7	10	7	214
1897	8	12	12	12	10	6	9	7	7	6	4	5	11	16	9	10	3	8	7	12	5	6	10	7	202
1898	*11*	7	*10*	*10*	*8*	*8*	*10*	*11*	7	15	*10*	*12*	5	9	*8*	*8*	*13*	*15*	*8*	*12*	6	*11*	*12*	*11*	238
1899	12	11	7	2	4	12	8	8	10	12	9	4	7	9	4	9	8	5	13	15	9	9	13	6	206
Total	86	74	86	72	79	85	80	84	72	75	77	63	62	74	73	82	68	73	96	94	59	75	98	80	1867
	160		158		164		164		147		140		136		155		141		190		134		178		

An examination of the foregoing table reveals the notable fact that the month in which the most deaths from diabetes occurred is October, while the one in which the mortality from this disease was lowest is the month just following, November. The total mortality from diabetes for the period of 11 years for each month fluctuates between the two extremes, 190 deaths in October and 134 in November. It is remarkable how little the figures for certain months deviate from each other. Fatal terminations of the affection were recorded: January, 160; February, 158; March, 164; April, 164; May, 147; June, 140; July, 136; August, 155; September, 141: November, 134. In October and December the mortality from diabetes was somewhat greater, 190 and 178, respectively.

Classing the months into seasons, the following figures are obtained:

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[1] Meanwhile this article has appeared in the Medical Record, on Nov. 17, 1900, under the title: "The Mortality from Diabetes Mellitus in the City of New York (Manhattan and The Bronx), in 1899." Classified according to month, sex, and age; also an exposé as to nationality, duration of residence in the United States, occupation, direct causes of death and accompanying diseases.

Spring: March, April and May	475 deaths,	or about 25 per cent.
Summer: June, July and August	431 deaths,	or about 23 per cent.
Fall: September, October and November	465 deaths,	or about 25 per cent.
Winter: December, January and February	496 deaths,	or about 27 per cent.
Total	1867 deaths,	100 per cent.

It is a noteworthy occurrence how almost uniformly the 1867 deaths were distributed over the different seasons. For a period of 11 years the total spring and fall mortality differed from each other but 10 deaths. The divergency between spring and fall mortality on the one side and the summer mortality on the other is somewhat greater, amounting, respectively, to 44 and 34 deaths in 11 years. The greatest divergency is found between summer and winter mortality, namely, 65 deaths in the period in question, or between 3 and 4 per cent.

Considering this last feature evolved by the statistics, it seems rather dubious whether temperature, sunshine, moisture, etc., as assumed by many authors, play any rôle whatsoever in the fatal termination of diabetes.

It could be surmised that the somewhat greater October mortality might be called forth by climatic occurrences; the validity of this assumption, however, is very questionable, as in the following month, November, when the climate does not differ materially from that of the preceding month, the mortality from diabetes was the lowest. The larger figure for October, in my opinion, is solely due to the fact that New York City is more populated during October than during any other month of the year. The people have then just returned from their summer sojourn in the country or abroad, and the exodus to southern regions has not yet begun. Many diabetics who have left the city during the summer months are among those who return and the mortality is somewhat increased simply by their presence in greater numbers.

The somewhat lessened mortality from diabetes during summer may be explained in a similar manner; a large percentage of the diabetics have bidden farewell to the sweltering city.

The mortality was greater in the male sex in January, February, June, October and December. The numebr of females who succumbed to diabetes was larger than that of the males in March, April, May, July, August, September and November.

MORTALITY FROM DIABETES MELLITUS ACCORDING TO AGE.

Deaths.	Percentage.		Age.
4	0.21	occurred	0—1
1	6.05	"	1
2	0.10	"	2
2	0.10	"	3
4	0.21	"	4
11	0.57	"	5—9
17	0.89	"	10—14
38	2.00	"	15—19
43	2.26	"	20—24
133	6.98	"	25—34
161	8.45	"	35—44
400	21.00	"	45—54
513	26.95	"	55—64
414	21.74	"	65—74
113	6.03	"	75—84
11	0.57	"	85 and over

The greatest mortality from diabetes was found to be between 55 and 64 years of age. From the 65th to the 74th year the mortality declined about 20 per cent. and was about the same as between the 45th and 54th years. Apart from the deaths under 1 year of age the mortality of diabetes increased to the period between the 55th and 64th years, after which it slowly decreased to the 74th year. A decline of about 70 per cent. in deaths from diabetes is noticed between the 75th and 84th years of age.

An abrupt rise of mortality is noted after the end of the 44th year. While but 161 deaths were recorded for the period between the 35th and 44th years, an even 400 occurred between 45 and 54 years of age. Over 70 per cent. of all deaths took place between the 45th and 74th years of age. The fact that but 11 instances are recorded where the patient has lived to the 85th year and above, tends to show that only a very small percentage of diabetics reach an exceptionally high age.

Moreover it must not be construed as if the individual who succumbed to diabetes in an advanced age was necessarily afflicted with the disease for a long period. It appears, on the contrary that the diabetic condition may be established late in life and that diabetes then acquired runs as rapid a course as in the very young.

From the 20th to the 24th year the mortality from diabetes in the male sex is almost three times as large as in the female. Between the 25th and the 34th year the male mortalty was found to be about 30 per cent. larger. From the 35th to the 44th year the mortality of the male exceeded by about 18 per cent. that of the female. In the period between 45 and 54 years, the mortality of both sexes was almost analogous, and in that between the 55th and 64th year the female mortality surpassed by a fair margin that of the male sex. In the next period, from the 65th to the 74th year, the female mortality was also greater than that of the male, and in the period following, from the 75th to the 84th year, the female mortality was almost twice that of the male. In the period above 85 years the male mortality exceeded 4.5 times that of the other sex.

Exposure, excesses of a different nature, mental and bodily strain and worry undoubtedly stand in a causative relationship to the more frequent occurrence of diabetes and the subsequent greater mortality of the male from this affection between the 20th and 44th years of life. From the 45th to the 74th year the external conditions of life of both sexes are more alike and we notice a relative decrease in the mortality of the male, although the absolute figures are highest during this period.

The cessation of the catamenia, which takes place in many instances after the 44th year has been passed, and in the wake of which occurrence grave systemic disturbances not infrequently make their appearance, undoubtedly helps to swell the female mortality from diabetes between the 45th and 48th year.

The very high mortality of females after the 55th year and before the 84th year is reached, does not seem to be caused by any especial factor or factors, but seems rather due to the better care a woman can very often bestow upon herself.

If we add together the figures from the 20th to the 84th year we find that for this period of life 884 deaths of males and 893 deaths of females from diabetes had ensued. These total figures are almost alike.

MORTALITY FROM DIABETES MELLITUS IN INFANCY AND EARLY ADOLESCENCE, 1889-99.

Judging by the mortality from diabetes mellitus in childhood, the period when this disease almost always terminates fatally, we may adduce that this malady is a rare affection in infancy and early adolescence. I found 4 cases of death from diabetes mellitus in infants below 1 year of age, during the 11 years from 1889-99; at 1 year of age, 1 death; at 2 years, 2 deaths; at 3 years, 2 deaths; at 4 years, 4 deaths ensued, that is 13 instances in which the disease terminated fatally below the 5th year of life. Between the 5th and 9th year 11 cases of death are on record for the period in question; from the 10th to the 14th year of life, I came across 17 recorded instances; and from the 15th to the close of the 19th year, the mortality from this affection amounted to 38. The total mortality from diabetes in infancy and early adolescence, being 79, forms about 4.25 per cent. of the total deaths from this disease during this period of 11 years. Of these 79 cases, 55, which is over 70 per cent., occurred between the ages of 10 and 19. The period of puberty seems to be without potent influence upon the production of diabetes mellitus or upon its fatal termination.

Of the 13 instances of death following the affection which occurred under 5 years of age, but 3 took place in females. Among the 66 other instances of deaths from diabetes in early life 33 ensued in males and 33 in females, exactly 50 per cent. in each sex. The external conditions of life in the United States as a general rule are in the mean the same for both sexes to the 20th year; a fact to which the equal distribution of the disease in both sexes may be well ascribed.

MORTALITY FROM DIABETES MELLITUS AMONG THE COLORED POPULATION OF NEW YORK CITY, 1889-99.

In the official records I find but 15 deaths from diabetes which as designated occurred among the colored population of New York City for the past 11 years.

I could not obtain exact figures of the colored population of each year comprised in the period in question, but it seems that the death-rate from this disease in the colored race, compared with that of the white population, is exceedingly low. This may be due, to either the infrequency in which the pathologic condition appears in the Ethiopian race, or to its occasional non-recognition when it is present. The great majority of the colored people belong to the lower strata of the populace, to that class which get along with a home-made diagnosis of its ailment or frequent dispensaries or "cheap" doctors. Thus it might happen, that the real disease is not infrequently overlooked and that the patient treats himself or is treated for another affection.

Of the 15 specified instances, 9 deaths occurred in males and 6 in females—a proportion divergent widely from that occurring in the white population.

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CUTANEOUS DISEASES ACCOMPANYING DIABETES.*

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In this paper I shall consider those cutaneous diseases which occur with more or less frequency in diabetes, many of which are extremely annoying and painful, others dangerous, contributing in no small measure to the fatal issue of the disease. The recognition of the causal relationship existing between these eruptions and the glycosuria is an absolute prerequisite to the successful treatment of the former; and, as in many instances they are the first noticeable symptoms of diabetes, they also possess distinct value in the diagnosis of this affection. The greater number of them are of an inflammatory character, resembling in a general way the inflammatory diseases of the skin due to other causes, but also presenting certain peculiarities as to location and course, which suggest their etiology. A few are so constantly associated with sugar in the urine that they deserve the name "diabétides," first proposed by Fournier to indicate cutaneous diseases peculiar to those suffering from diabetes.

When the glycosuria is accompanied by excretion of large quantities of urine and likewise in the late stages of the malady, the skin is apt to be extremely dry, owing to the great diminution in the quantity of perspiration and sebum excreted, and a constant desquamation of fine white scales goes on; the hair too, becomes thin, dry and lusterless. This abnormal dryness of the skin is usually accompanied by a more or less marked general pruritus. The nails of the fingers and toes are likewise apt to present various abnormalities. They are unusually brittle and devoid of their normal luster; and in exceptional cases some or all of them are lost. This fall of the nails may be preceded by evident disease, or it may occur without precedent alteration of the nail-structure. Hemorrhage may take place into the nail-substance and trophic changes leading to deformity may occur as the secondary consequences of a diabetic neuritis. Intense pruritus localized about the vulva in women, the scrotum in men, the perineum, anus, and inner surface of the thighs in both sexes, is an extremely common symptom of diabetes; indeed so frequent is this form of pruritus that its presence should invariably lead to an examination of the urine for sugar. The itching in this form of pruritus is almost unbearable, and the violent scratching and rubbing to which the patient is irresistibly impelled leads in most cases to the development of an eczema.

Various forms of erythema may occur; the commonest are symmetrical patches situated on the face and a papular variety met with usually in young subjects, consisting of split-pea-sized, pinkish, slightly elevated lesions, situated on the forearms and legs; these papules may coalesce after a time to form variously sized patches.

Urticaria of a chronic type is likewise met with in a certain proportion of cases, due either to the direct irritation of the skin by the sugar present in the circulation, or resulting from disturbances in the alimentary canal.

One of the commonest and most distressing cutaneous complications of diabetes is eczema, situated most frequently about the genitalia, especially in women. This may begin as a severe pruritus, no evidences of inflammation being at first visible, but presently the skin becomes inflamed, partly from the violent scratching to which the parts are subjected, partly from the irritation produced by various micro-organisms—torula cerevisiæ, etc.—whose growth is favored by the saccharine urine with which the parts are apt to be frequently soiled. In many instances the affection is eczematous from the beginning; the skin is a bright-red, and oozes a sticky serum which soon dries into thick crusts. The inflammation may be limited to the genitalia, but more commonly it spreads up over the abdomen and down over the thighs, oftentimes involving a considerable area. In many cases this eczema presents nothing peculiar except its localization; but it may assume a very acute erythematous form which runs a rapid course, a form regarded by some authors as characteristic of diabetes. In men the prepuce is often the seat of an eczematous inflammation of a very severe grade, which produces marked thickening and narrowing of the preputial orifice, with the formation of exceedingly painful fissures about its margin, leading in some cases to an extreme degree of phimosis. Balano-posthitis usually accompanies this condition of the prepuce, due to the retention of small quantities of saccharine urine after each act of micturition and the decomposition of the sebaceous material so abundantly excreted in this region. It is worth while bearing in mind that pruritus or eczema about the genitalia may be the first symptom of diabetes, occurring in patients who suffer neither from excessive thirst nor polyuria.

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In elderly subjects and in the later stages of diabetes a severe form of acne—acne cachecticorum—may occur, due largely, no doubt, to the extreme malnutrition of the skin. In the same class of patients painful furuncles, occurring singly or, what is more common, in crops, and carbuncles, are common events; it is estimated that about one-third of all such affections are due to glycosuria. Carbuncle, besides being an extremely painful and exhausting affection, is often of very grave import, being in many cases the direct cause of the patient's death. The frequency of such local affections is probably due to the unusually favorable conditions offered by the sugar-saturated tissue for the growth of pyogenic micro-organisms. In their clinical features these furuncles and carbuncles do not differ from similar lesions occurring in the non-diabetic; therefore their occurrence should always suggest the possibility of their glycosuric origin, and lead to an examination of the urine.

As papillomatosis diabetica, Kaposi has described an unusual affection characterized by the sudden appearance of an inflammatory patch on the back of the hand which suppurated and was followed by ulceration. At the site of this ulcerating lesion numerous papillary outgrowths, partly red and oozing, and partly horny, were formed. The patient had suffered from saccharine diabetes for twenty years.

A much more serious complication than any of those already mentioned, is gangrene of the skin. This may exist as moist or dry gangrene, usually in single, but sometimes in multiple, lesions; it may be limited to the skin and subcutaneous tissues or it may involve the deeper structures, even affecting an entire extremity. In rare cases it occurs symmetrically on the extremities, and is then suggestive of Raynaud's disease; but the absence of the peculiar train of symptoms which precedes by some considerable time the death of the skin in this affection—local ischemia and asphyxia—will usually suffice to exclude it. Under the name of bullous serpiginous gangrene, Kaposi has described a rare form of diabetic dermatosis in which the death of the skin is preceded by a bullous eruption, the subsequent gangrene extending serpiginously. In diabetics gangrene of the skin may follow the most insignificant injury, or it may be the result of some one of the many inflammatory affections so common in this malady. It may even occur without any precedent injury or inflammation, and is then probably the result of a neuritis or changes in the vessels supplying the part.

One of the most characteristic eruptions of diabetes is that known under the name of xanthoma diabeticorum. Although it is said to occur in rare instances without glycosuria, yet sugar is found in the urine in so large a proportion of the cases that it may be regarded as almost pathognomonic of diabetes mellitus. The eruption is usually moderate in extent, affects by choice the elbows, knees, and buttocks, and consists of yellowish or yellowish-red, rather flat papules. A moderate degree of itching and stinging usually accompanies it. It appears somewhat abruptly, and lasts for a period varying from a few weeks to several months, or even years.

Certain other diseases of the skin may be mentioned which are occasionally associated with glycosuria, but in which the causal relationship of the latter has not yet been satisfactorily established.

Nagelschmidt has found glycosuria so often in psoriatic patients that he is of the opinion that some causal connection exists between psoriasis and diabetes; but this seems doubtful in view of the fact that in the vast majority of cases of the former affection no sugar is present in the urine. Glycosuria has also been found in a certain number of cases of dermatitis herpetiformis, but whether this is the cause or effect, or whether the association was only accidental, yet remains to be determined. In rare instances abnormal deposits of pigment take place in the skin, as in so-called bronze diabetes.

Purpura is also an occasional complication, occurring usually in the early stages, but it may also appear in the later stages of the malady, when it is probably the result of the dyscrasia often existing at this time. This complication, when of the hemorrhagic variety, may be the immediate cause of death.

A few words as to the treatment of these various affections of the skin must suffice. The local treatment is largely that of similar diseases occurring in the non-diabetic. In the inflammations so common about the genitalia scrupulous cleanliness will go far toward a cure, or if not a cure, relief. Indeed if the parts are frequently bathed before inflammatory symptoms have actually appeared, they may be entirely prevented, since, as has already been said, they are in large part due to the direct irritant effects of the saccharine urine on the skin. But the treatment of the underlying cause, the diabetes, is of far more importance than any local remedies. In many cases of genital eczema or pruritus which have obstinately resisted all local treatment, the distressing symptoms will rapidly disappear when the patient's diet is regulated so as to exclude sugars and starches.

DISCUSSION ON PAPERS OF DRS. HERRICK, STERN AND HARTZELL.

DR. S. SOLIS-COHEN, Philadelphia—The only way to avoid missing cases of glycosuria is to examine, as a routine measure, the urine of every patient, no matter how trivial his complaint appears to be. I have often found sugar in urine of low specific gravity. Every case of glycosuria, however, is no more diabetes than every case of albuminuria is Bright's disease, or nephritis. The time is coming when we shall recognize the varieties of morbid constitution of the urine as symptoms of various pathological conditions due to various etiological factors. It is true that the vast majority of cases of glycosuria are due to diabetes, yet there are many other conditions in which I do not refer merely to alimentary glycosuria, but to pathologic glycosuria apart from diet. We may find it in influenza, in malaria, and in convalescence from these affections. It is not uncommon in Graves' disease or in acromegaly. It may be intermittent or recurrent. I have seen a few cases confirming the opinions of text-books that bilateral sciatica may be due to diabetes. In every such case the urine should be examined before this condition is excluded.

DR. JAMES J. WALSH, New York City—I should like to call attention to the fact that certain diseases that were formerly considered to be rare are in reality frequent. One man in Washington has seen over one hundred cases of pernicious anemia. Dr. Stern has referred to the increase of diabetes, showing that the disease is now recognized oftener than it was. It is interesting to note that many patients die of tuberculosis, or of nephritis, without suspecting the presence of any diabetes. It is a well-known fact that about one-half of all cases that die of diabetes have some tuberculosis of the lungs at the time of their deaths. Practically all cases of diabetes have a certain amount of albumin and casts in the urine.

DR. JOHN J. MORRISSEY, New York City—In the consideration of diabetes there is one factor in the treatment of great prominence, that is, we should treat the diabetic and not the diabetes. Diabetes is produced by many causes. In examining the connection between tuberculosis and diabetes during the past year I found, among 100 cases examined, that glycosuria was present in 30 per cent. at least. Since then I have examined 50 other cases and found it present in 10 per cent. of the cases. Where we find skin diseases of a chronic character we should, as ordinary routine practice, examine the urine, particularly when we meet with furuncles or carbuncles. The medical treatment of the latter will prove slow and unsatisfactory when depending upon a diabetic causation unless the disease be treated. I do not believe that alimentary glycosuria ever develops into true diabetes; one is merely a symptom of dietetic disturbance, the other a disease of grave importance. Each case must be individualized. No restricted diet will be found adapted for all cases. The prognosis, when the disease is due to a dietetic factor, is good. In cases which have their origin in cerebral disease, and also in the involvement of the pancreas, the prognosis is always very grave. When impotency is found associated with diabetes, it may be that both arise from the same cause, and not as a sequence.

So far as the treatment of diabetes is concerned, it is in a very chaotic condition. After using strontium and the other preparations provided by the genial manufacturer, I find that it is best to rely upon opium or one of its various preparations.

DR. C. F. WAHRER, Ft. Madison, Iowa—It is easier to make a diagnosis of diabetes now than it was formerly. Indeed, a physician possessed of an average degree of intelligence can diagnose from 80 to 90 per cent. of all cases of diabetes. In speaking of the diagnosis it reminds me of a German friend who said: "I would rather make a diagnosis and have the patient die than to have the man survive and be unable to make a diagnosis." Of course, this is what interests the physician; but it does not interest the patient. I stand up here to make a plea for the patient. In dieting these patients by any rule of thumb that rigidly forbids all sugars and starches, and feeds them on meats and certain vegetables alone, on gluten biscuit, saccharin, glycerin, and a lot of other stuff that would ruin the digestion of a sound man, we do ourselves great injustice, and the patient a great wrong, even though we limit the excretion of sugar by this diet list. We by no means modify the real disease process; we but change the symptoms, we lessen the excretion of sugar—a mere symptom—and we increase the discomfort and misery of our patients. Just picture them for five to ten years existing on a diet that no well man could live on, to say nothing of the morbid cravings of one so sick as a diabetic. The rank and file of diabetics, especially the young, die despite all treatment and dieting. The differential of the sugar eliminated by the urine will not make up for any loss in the molecular changes going on in the nervous system. Let us first know our pathology before we follow rigid rules of treatment and dieting.

DR. A. E. ROUSSEL, Philadelphia—I think all agree that the diagnosis of diabetes presents no difficulty. We occasionally meet with a case which has been diagnosed as such that afterward proves to be merely a symptomatic exhibition of sugar in the urine. At the last meeting of the ASSOCIATION in Philadelphia, I reported the case of a patient who had been treated for nearly six years. The conditions presented by the patient after being placed in the hospital led us to believe it to be an undeveloped case of myxedema. Photographs were exhibited showing the results of the thyroid treatment: the patient resumed apparently the normal condition and the sugar entirely disappeared and continued in abeyance as long as the thyroid treatment was kept up. The treatment was discontinued for one year with a return of the myxedematous symptoms and the exhibition of large quantities of sugar in the urine. This goes to show that it is possible for cases of myxedema to have sugar in the urine, as has been recorded by several observers.

In regard to the question of diet I disagree with the last speaker regarding the fixed and fast rules in the average diet for the patient. No fixed and fast rules can be laid down for diet. The exhibition of diacetic acid, or oxybutyric acid, or of a large amount of acetone should be regarded as a danger signal of the approach of diabetic coma, and no matter what form of diet is in use it should be immediately changed for some other. Consequently the recognition of the above in the examination of the urine is to my mind more important than even the percentage of sugar present.

DR. O. T. OSBURNE, New Haven, Conn.—I think we should endeavor to get at this disease from an etiological standpoint. We know that 50 per cent. of the cases of diabetes show pancreatic disease; the other 50 per cent. may not show such a condition. We know that certain nervous diseases may produce diabetes; we know that myxedema and also exophthalmic goiter may produce diabetes. Again, as Dr. Stern has shown from the statistics given, at the time of the menopause, the woman seems to have diabetes. Sugar may appear in the urine in acromegaly and in thyroid disease, etc. These cases are interesting in that they show that we may get at the source of the trouble later. It also emphasizes the fact that it is objectionable to treat true diabetics with a strict dietetic course. It is certainly true that if we take away the carbohydrates we should substitute fats.

DR. JAMES B. HERRICK, Chicago—I was interested in the statements made by Dr. Stern in reference to the infrequency of diabetes in the colored race; it bears out the experience of physicians who have practiced among the black people. Possibly it may have something to do with their manner of living. I believe that it is Von Noorden who quotes the statement that among the upper 10,000 in Berlin there were more cases of diabetes than among the lower 100,000. I am sure that those who are in hospital work, and in private practice have been struck with the greater frequency with which we meet these cases in private practice than in hospitals. Diabetes is one of the rarest diseases to be met with in the public hospitals; yet in private practice the percentage of cases of diabetes met with is rather high. So it would seem that the manner of living has much to do with it; it is much more frequent among the higher than the lower classes.

Of course, I agree with Dr. Cohen that every case of glycosuria is not diabetes; I referred to that in my paper. Certainly there is a transient glycosuria that may occur from a variety of causes. There is an alimentary glycosuria and none will insist that it is a true diabetes. But we should here utter a word of caution in regard to going too far in that direction. While we believe that there is such a thing as a functional or non-organic albuminuria, still we know what great danger there is to our patients if we do not regard all these cases with suspicion; they may be forerunners or the beginnings of organic disease of the kidneys. And in a similar way we should be cautious in declaring that a given case is one of functional glycosuria. We should be on the look-out for genuine diabetes. In many of the milder forms of diabetes there may be a temporary disappearance of the glycosuria.

Dr. Cohen has referred to bilateral sciatica. In a part of my paper that I did not read I made mention of this complication. I have always looked out for bilateral sciatica in every instance of diabetes, but I have never yet seen a single case, although I know it is referred to by many writers. Dr. Walsh very properly calls attention to the importance of testing for sugar in the urine in cases of tuberculosis.

In regard to treatment, although not touched upon by the essayists, I wish to array myself on the side of the gentleman from Iowa, as against the indiscriminate and too vigorous enforcement of diet. We should take a more liberal view of the diet question, and this is in accord with the best writers upon, and the best observers of, diabetes. If we cut our patients off absolutely from carbohydrates there is great danger of coma supervening, which may come on rapidly. I also agree with the statement that we should not treat the diabetes, but the patient himself.

DR. HEINRICH STERN, New York City—In response to Dr. Herrick's statement that diabetes, as is the general opinion, is a disease of the well-to-do, I would like to state, that in my researches of the original death certificates in the city of New York, almost 70 per cent. of deaths occurred in tenement houses, a tenement house being a dwelling structure occupied by more than two families: 15 per cent. occurred in hospital practice and coroner's cases, and only about 15 per cent. in private houses. This tends to show that the malady, if it may be called such, has virtually little to do with high living. At the same time, my statistics show that the Jews have not diabetes as frequently as supposed, and that the Irish, on the other hand, seem to be those who have a larger mortality from diabetes mellitus. Possibly a Jew will take better care of himself, but it seems highly probable that alcohol is a very potent factor, indeed, in the production of diabetes.

Diabetes mellitus, as I have pointed out long ago, is not a disease per se, but merely a syndrome, merely a stage in the diabetic deterioration. I have recognized, in some instances even 2 or 3 years before the appearance of dextrose in the urine, that diabetes will occur. I divide the diabetic deterioration into three stages; 1, the preglycosuric stage; 2, the glycosuric stage, the diabetes mellitus of to-day; 3, the post-glycosuric stage, the toxemia, when aceton, aceton-acetic acid and levorotatory oxybutyric acid are present, and when the output of sugar has markedly diminished or entirely ceased.

Diabetes mellitus, or the diabetic deterioration, is a plasmolysis, and as such is not difficult to diagnose. It has nothing at all to do with glycosuria, glycosuria being merely a symptom of it, just as it is a symptom accompanying a great number of operations. I have seen glycosuria following simple chloroform anesthesia; I have seen it in the wake of the extirpation of tonsils and of the kidney: I have seen it occur after overeating, after indigestion and after headache.

The identification of dextrose is not an easy matter. It is for the chemist, not for the general practitioner of medicine. The copper tests should be abandoned altogether—Haynes', Elliott's, Fehling's, Trommer's Salkowski's—they all serve a purpose, but do a great deal of harm in the hands of the family *physician.*

Now, as the diabetic deterioration is a plasmolysis, how do we recognize it. I have showed some years since, that albumin may be split up *into a sugar molecule* on the one hand, and carbamid, or as it is wrongly called "urea," on the other. Carbamid plus glucose, or dextrose or whatever sugar of the series $C_6H_{12}O_6$ it may be, makes up albumin. In other words, I recognize the diabetic deterioration by the continued large output of carbamid + glucose; or in other words, if the egested nitrogen exceeds for any length of time the ingested nitrogen, and if at the same time sugar is excreted by the urine, then, and only then can we speak of a diabetic deterioration; then, and only then, diabetes mellitus, of the authors of to-day, is present.

I hesitate not for a *moment to state* that levorotatory oxybutyric acid and the fatal coma diabeticum are often the result of a too long continued rigid fat-*meat* diet. Coma associated with diabetes, however, is not necessarily diabetic coma. In all instances where an accompanying or intercurrent disease, like many of the chemical affections, as phthisis pneumonia, end in coma, and when diabetes is present we can not speak of a coma diabeticum. Coma following nephritic conditions, which are associated with glycosuria or diabetes, is by no means a true diabetic coma. This is only present when diabetes is unaccompanied by other *chronic* diseases, and when the coma shows the characteristic dyspneic *feature.* This dyspneic phenomenon, or Kussmaul's breathing, is the only characteristic symptom of true coma diabeticum. Without it, we have no right to term a coma, a diabetic coma; a coma accompanying diabetes is not necessarily a diabetic coma.

Injuries After Intubation.—A writer in the *Corr. f. Schw. Aerzte,* found more or less serious lesions of the mucous membrane in 11 out of 96 intubated patients. The subglottic portion of the larynx and the mucosa of the anterior wall of the trachea were most frequently the site of the lesion. The tubes used are usually too large, he thinks. When it is difficult to introduce the tube, the obstruction *is usually* edema and not spasm of the glottis.

POST-ANESTHETIC PARALYSES.[*]

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Paralyses following an anesthetic which are due to that agent alone are more imagined than real. Were it not for those unfamiliar with the recent literature on the subject it would seem an imposition to burden the profession to enter further into the discussion. "Anesthesia paralysis," post-operative paralysis," etc., still in use, foster erroneous conclusions and should be dispensed with.

It is well known to neurologists that in many alcoholics, or other drug habitués, the vulnerability of a nerve trunk is so increased that a very moderate degree of pressure over it will produce a tingling or numbness, and slight injuries may even invite a neuritis.

However, we could not seriously consider an acute toxemia as an etiological factor diminishing the resistance of peripheral nerves, rendering them more susceptible to a peripheral palsy as a sequence of general anesthesia.

Seldom have I seen a post-anesthetic paralysis that did not clear up rapidly. Usually the paralysis is due to a lesion of the nerve trunk, the so-called peripheral or pressure type. In looking up the literature I find that there is little credence given to the anesthetic as the real cause.

Mally and Leszynsky, who have given as much light on the subject as any others, classify them as central, hysterical, reflex and peripheral. These paralyses are preventable in every case, and the serious attention of the surgeon should be directed toward suitable precautions as to position, etc., during anesthesia.

The central paralyses are, as a rule, immediate and are due usually to apoplexy. Since a very large number of persons who go under an operation are, by reason of age and vascular atheroma, predisposed to a stroke even from the most trifling causes, it is not unreasonable to suppose that such an accident would be a common occurrence. It is a fact, however, that apoplexy during anesthesia is so rare that it may be considered purely accidental and in no way connected with the anesthetic.

A hysterical paralysis is just as likely to be produced by other agents than anesthesia; in fact it is so rarely post-anesthetic that it may be considered accidental and due to the moral shock rather than to the anesthetic.

Reflex palsies are so extremely rare that those best competent to judge look upon them as purely accidental.

This brings us up to the peripheral palsy, which is the only one of importance to the anesthetist. That oftenest seen is paralysis of the brachial plexus, caused by elevation of the arms. This elevation—Trendelenburg position—puts the roots of the plexus, especially the upper roots, at a sharp angle with the transverse vertebral processes, the indirect pressure causing the paralysis. The upper roots suffer oftenest, as the angle is more acute than that of the lower. The most frequently involved is the deltoid muscle, although other muscles, infra-spinatus and supra-spinatus, have been paralyzed; also the radial, tibial and others, no doubt from a faulty position, such as an arm or leg hanging over the sharp edge of a table.

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It appears then that the only type avoidable is the last mentioned. All faulty positions should be guarded against and no long-continued pressure of any nature should be allowed. This paralysis corresponds to the pressure type with a favorable prognosis. Recovery is the rule where there is no degeneration or atrophy. A severe numbness or even a slight paralysis is not uncommon from pressure on a nerve trunk in alcoholics, but the writer has never seen a case that did not fully recover.

If there is no degenerative atrophy the use of electricity is indicated. Massage, passive motion, and injections of strychnia in the region of the nerve trunk, have done good.

As precautionary measures the surgeon should not permit too long an elevation of the arms, tight clamps or straps, head resting on the arm or an extremity hanging over the table. The fallacy among medical men is the belief that peripheral palsies recover soon and for that reason do not give these accidents proper attention.

The medicolegal question may arise here as to the liability of the surgeon if he has not taken all the precautions protecting his patient. Hence, it is evident that suitable prophylactic measures should be instituted before the subject becomes one of jurisprudence rather than medicine.

DISCUSSION.

Dr. F. Savary Pearce, Philadelphia—There is a woman under my care at the present time who has a post-operative paralysis owing to brachial pressure caused by the position in which she was placed during an abdominal operation. A point in etiology is, in part, as to whether the patient has a good amount of flesh cushioning her tissues; this woman was very slender, and of course there was less protection over the clavicle when the arm was extended.

The medicolegal aspect has also come to my attention, for in these cases the patients are inclined to blame the surgeon. The prognosis is very good in such pressure palsies. You are apt to find later, too, an exceeding amount of wasting and consequently a good deal of deformity, which brings the condition more to the patient's mind. It is here that we can give the surgeon a good word by promising a favorable prognosis.

Dr. Douglas Graham, Boston—I think a very common form is crutch paralysis, and if we get that in time there is almost an immediate relief through massage.

Dr. C. C. Hersman, closing—Even in the medical profession a great many men, instead of stopping to inform themselves, really think that the paralysis is caused by some mysterious effect of the anesthetic. Very often the man who is selected to give the anesthetic does not know that one position is more dangerous than another. Then if the paralysis does come on it is allowed to recover of its own accord, instead of Nature being assisted.

THE TREATMENT OF NEURASTHENIA.*

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We have made great advances in every department of nervous and mental diseases, especially in pathology and diagnosis, but the least progress has been made in therapy. Those who are most active in the field of research seem to pay but little attention to this, the practical part. One of the best of our recent text-books on nervous diseases devoted twenty-six pages to neurasthenia, but only two to treatment. It is with the view of stimulating work in this direction and not with the idea of presenting anything novel that this paper is read, and with the hope that it may provoke a discussion that will be of service to us all in the treatment of this commonplace disorder.

Neurasthenia has always been regarded as a functional disease, with no pathology, but a flood of light has been thrown on it by the investigations of Barker, Hodge, Mann, Eve, and many others as to the effect of prolonged activity and repose, and the effects of intoxications on the neurons. These researches have enabled us to comprehend the pathogenesis of the clinical phenomena that are found in the cases that develop gradually from overwork, anxiety, fret and worry and those that result from autointoxication and other intoxications.

Neurasthenia is an exhaustion of those neurons, the effect of defective metabolism; it is a pathological fatigue arising most frequently from gastrointestinal autointoxication. The vasomotor mechanism is the first to show the effect and the degree of disturbance in vascular tension, as Weber[1] pointed out, is a great aid in prognosis.

Neurasthenia being pathological fatigue, the first indication for treatment must be rest, mental and physical, and the first difficulty in every case is to determine whether this should be absolute or partial. In my opinion very few of the cases require absolute rest and many of them are injured by it. If the case has been one of long duration and very severe, with a very low arterial tension with very pronounced dyspeptic symptoms, four to six weeks of absolute rest will be necessary, and this should be on the Weir Mitchell plan with isolation, massage, faradic electricity and special diet.

A partial rest is all the great majority require, and the amount must be carefully determined in each case. It is usually sufficient to have them retire early, get up late, and take one or more hours of rest at noon. This rest at noon should be in a quiet, darkened room, should be absolute, with as perfect a condition of muscular relaxation as possible; one hour may be sufficient, but two is better. I regard this noon rest as very essential and it is possible even with men in active business.

Equally important with rest is the dietetic management; indeed, rest and recuperation are the two things aimed at, and recuperation must come through digestible and assimilable diet. The diet should be largely nitrogenous, and in order to promote its digestion and assimilation, sugar and sugar-producing articles should be used in the smallest possible amounts. I am sure that beef, mutton and eggs should furnish the basis of the dietary, with milk, of course, when it agrees, and if sugar is cut off these foods are more perfectly elaborated. The predigested foods are of great benefit, for many of these cases with their want of tone in the digestive organs can not properly digest ordinary diet; and failure to recuperate is often due to this cause. Therefore, make much use of predigested food, giving special preference to malted milk and somatose, ordering a teaspoonful of the latter with a cupful of the malted milk, and this in the absolute rest cases may be given every two hours; in the partial rest cases between each meal and at bedtime. I think this compound is much better than milk in many cases. Caution must always be used in so spacing the interval between the feedings as not to overtax the digestive organs. While there is comparatively little danger of this in using predigested foods, yet I think mistakes are often made with ordinary foods in this way. We fortunately have many kinds of predigested foods, efficient as nutritive agents, but of such different tastes that we can usually satisfy the palate of the patient as well as serve the nutritive demands of the system. I do not agree with those who positively interdict the use of coffee and tea. On the contrary, I think they are beneficial in many cases, excepting those who have the excessive use of these articles as a part of their etiology. I fully recognize the fact that the excessive use of either of them aids in prolonging and promoting neurasthenia, but in moderation they are both conservative to the general nutrition.

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[1] Boston Medical and Surgical Journal, May 5, 1898.

Electricity is the third indication. I have no doubt about its great value. In the absolute-rest cases, of course, general faradism is necessary, and I direct that in the beginning of the treatment it should be very gently applied and to the extremities only; later, to the whole body, using currents that can just be felt. The skin should be gently stimulated and the various groups of muscles should be made to respond to mild currents. The bed cases should also receive galvanism, first to the head, using a descending current with large electrodes of from 1 to 3 milliamperes; then to the cervical sympathetic, using from 3 to 5 milliamperes, and then to the spine and abdominal sympathetic, with a large negative electrode at the epigastrium and a smaller one over the spine and a current of from 5 to 10 milliamperes. These séances should be given daily.

The partial-rest cases who come to the office should have static electricity. I use it by insulation with the primary current, and by sparks from the spine and abdomen with the secondary current for fifteen or twenty minutes daily. My observation leads me to agree with Morton, Herdman and others that this form of electricity is sedative, tonic, eliminant and a promoter of normal vascular tension.

Hydrotherapy is the fourth indication. Sponge baths are a necessary part of the Weir Mitchell treatment, but in addition they should have the wet pack daily, beginning with a temperature of about 70 F., and gradually lowering to 50 F., prolonged for about one hour. The wet pack promotes tissue metabolism, favors the elimination of fatigue products and promotes sleep.

For the partial-rest cases, the dripping sheet is used, the water being about 70 F., and the friction with the sheet made vigorous, the whole rapidly done. It is an admirable vasomotor tonic. The shower bath, beginning with moderately warm water and gradually cooling it, is of much service in many cases. The hot-air bath, like the wet pack, will promote elimination and often overcome insomnia. Cabinets for this purpose are now readily accessible at a reasonable price.

Massage is the next indication, and is required in all the absolute-rest cases, and there is no necessity and but little advantage in introducing a special masseur. It should be given to the nurse, thereby not only saving unnecessary expense but averting the frequently distracting influences of a stranger in the case. It should be given very gently in the beginning, the movements being limited to the gentle and superficial ones, and little by little the force, vigor and extent of the treatments should be increased. The partial-rest cases sometimes need massage and sometimes do not. If the effect of the massage is sedative, it will do good; if, on the contrary, it is exciting or irritating and may do harm. In some cases, however, the difference between the effects may not be due so much to the patient as to the method of its administration. As the case progresses toward recovery, physical exercise becomes necessary. The Swedish movements may be added to the massage; light calisthenics may be provided, and such outdoor exercises as golfing, for example. This, I take it, is one of the very best outdoor exercises of to-day for the convalescent cases, and, indeed, for many of the mild cases from the beginning. One of the most persistent cases that I have ever had to treat was largely cured by golfing. The game was played near Chicago in the summer, and when the season was over, she went to the Hot Springs, of Virginia, on account of the golf links that were there, and later to Atlanta, Ga., and she returned home well. The reasonable use of the bicycle is of much use to many, always giving them the caution that its excessive use is dangerous. The trouble is that many of these cases do not seem to know when they have over-exercised. Horseback riding is a very valuable outdoor exercise, much less liable to be abused than bicycling. Change of scene is often of advantage, but much traveling is injurious.

The European trip has been very detrimental to several of my patients. A neurasthenic must be a very good sailor to derive benefit from an ocean voyage, and sight-seeing in Europe is hazardous to their nervous system. The climate selected should be one with a moderate mountain elevation, 1500 to 2000 feet, and one not too dry. Ideal places are to be found in the Allegheny mountains, especially in the mountains of North Carolina—the country round about Asheville, and even better the country north of Asheville, with Linville as its center. This mountain region has the proper elevation, is not too dry, is very free from fogs and has superb mountain roads and trout streams, and inspiring scenery, and far enough removed from the ordinary lines of travel to give the necessary quiet.

The sanitarium, for a short time, is a good place for some patients. They can here receive the rest cures at comparatively little expense, which is an important item, of course, with many; but I do not care to have them remain long in these institutions, because their association with other invalids may develop hypochondriacal symptoms in some patients and hysteria in others.

In the drug treatment of neurasthenia, the first important class is those which promote elimination. Autointoxication from constipation and colonic impaction are very frequently present, sometimes overlooked. The aloetic laxatives are those I most frequently use, such as the Lady Webster dinner pill, or the pill of aloin, strychnia, ipecacuanha and belladonna. Occasionally a calomel purge is beneficial. Many of these cases require colonic flushings with the normal saline solution administered in the kneee-breast position. Such flushings may be administered in the majority of the constipation cases once or twice a week to the very great advantage of the patient, not only relieving the constipation, but promoting renal elimination, so often deficient. This renal deficiency very often demands diuretics, of which the effervescing potassium citrate is probably the most efficient. All neurasthenics, I think, are greatly benefited by the imbibition of a large amount of water. This not only promotes renal elimination, but adds to the activity of all the emunctories of the body.

The next indication is to relieve the nervousness. For this purpose the bromids are invaluable, and I prefer the sodium bromid. This I usually combine with the fluid extract of adonis vernalis, in from 1 to 5 minim doses. This drug is a vasomotor and cardiac stimulant, and by reason of this action guards against the depressing effects of the bromid. It also increases renal elimination and is a sedative to the sensory nerves and has no cumulative effect. I very rarely administer the hypnotics on account of the danger of establishing a habit and because of their interference with digestion and tissue metabolism. The bromids during the day, the hot-air bath or the hot pack at night, with some easily digestible food at night will almost invariably secure all the sleep that is necessary. The blood in the great majority of the cases shows a low hemoglobin record and a low count of red corpuscles, and hematinics are necessary. Blaud's mass, first introduced to the profession by the great Niemeyer, combined with small doses of the extract of nux vomica and arsenious acid, makes the best hematinic combination that I have yet found and is vastly superior to any of the new iron preparations that I have tried. There are very few cases in which it will not rapidly improve the blood record. Cases that are not improved often require alteratives in addition, and the chlorid of gold and sodium, combined with the pulverized resin guaiaci, a combination that prevents the decomposition of the gold salt, given before meals, a half or three-quarters of an hour, is the best alterative combination in my experience. Occasionally small doses of the corrosive chlorid of mercury answers next in preference as an alterative. Phosphorus, as the zinc phosphid, or the syrup of the hypophosphites U. S. P., are of service in some cases, and the animal extracts containing phosphorus in a readily assimilable form may be used with advantage. The mineral acids in some of the dyspeptic cases, for temporary use, are of service. Quinin I rarely use unless there be a malarial element present. Strychnia I never give in large doses. I think these two drugs agree in increasing the nervousness and do not benefit, except in exceptional cases, general nutrition.

In conclusion, no matter what special line of treatment may be adopted, it is very important to keep the patient busy in his efforts at cure and a daily schedule of therapeutic work should be furnished to him.

DISCUSSION.

Dr. J. H. McBride, Los Angeles, Cal.—Dr. Brower's remark that neurasthenics do not know when they have reached their limit in work is true of all neurasthenics, or nearly all. Few of them have, or ever had, in health, the natural feeling of tire, and it is almost inevitable that they will overdo.

The mental element of the neurasthenic is an important one. The mere fact that we seclude them is evidence that this is considered important, and yet by seclusion not everything is gained for this side of their life. They should not be allowed to speak of their illness to the nurse, nor to any one. I have made it a rule to allow them to tell me their story once fully and then forbid them to repeat it. This saves the patient from indulging in the morbid luxury of reciting her symptoms, and by compelling a neglect of them they tend to become less prominent. The tendency to hypochondriacal states can be checked in this way.

Dr. W. S. Watson, Fishkill-on-the-Hudson—The importance of treatment of neurasthenia is more than the actual pathology, or whether it is functional or otherwise. The mentality of these cases is a very important feature. Very frequently they seem to live upon the idea that they have some incurable trouble. The electrical treatment and attention to the prevention of auto-intoxication from the intestinal tract are important. Mild doses of mercurials are of advantage, as in nearly all these cases constipation is a factor of no small importance.

Dr. Richard Dewey, Wauwatosa, Wis.—I find myself very much in agreement with the ideas expressed by Dr. Brower in his treatment of this common malady, especially the prescribing of a definite period of rest during each day. This is about the only method of preventing overtaxation in very many of these cases which we all encounter that are incapable of judging at all for themselves how much exertion they should make. They seem to have lost what you might call the fatigue sense. I do not know whether the fatigue sense has a definite center in the brain, but I have been struck by the fact that so many patients are incapable of judging the limits of their own strength.

I agree also in saying that treatment at a sanitarium has its disadvantages in bringing these invalids together, unless great care and precautions are taken to avoid undesirable association, with mutual comparing of notes and discussion of symptoms. This can be done, however, and if it is done, the oversight that can be exercised in a sanitarium is much superior to that which can be secured in any private house, unless you have a rest cure with one or two nurses constantly in attendance. In addition to tub and sheet baths I believe in different forms of sprays and douches, needle baths, etc., and also in the hot shampoo, which in many cases is exceedingly valuable in relieving insomnia.

Dr. C. C. Hersman, Pittsburg, Pa.—I have decided that rest is one of the best medicines for neurasthenia. Electricity and massage are particularly good with those who are put to bed. For those taking the rest cure I think the hot bath at bedtime is one of the best possible things, because it is such an excellent hypnotic.

Occasionally we find patients whom we diagnose as neurasthenics. Neurasthenia may be the beginning of a paresis; consequently it is necessary for us to study our patients closely. It may be very provoking for us to treat a case of neurasthenia, and then finally have it develop into a typical case of paresis. According to some of our best authors, we find that neurasthenia is the very first symptom, in some cases, and unless we study our patients carefully it is impossible to diagnose the beginning of paresis. In treating of neurasthenia one of the first and most important steps is to gain the confidence of our patient. Otherwise our success is not that desired.

Dr. John Smith—It seems to me that there are many cases that are diagnosed neurasthenia, and treated as such, which are not really that condition. Neurasthenia is not a distinct entity in itself, but it is simply a symptom-complex which we find in many disorders, and I think, not perhaps the neurologist, but the general practitioner, is too apt to simply discover symptoms and call it neurasthenia, without knowing what the underlying conditions are. I remember distinctly a case seen this year, which the physician had treated for some time, and finally sent to me saying he could not find anything outside of the neurasthenic symptoms. Immediately upon examining the urine I found the whole trouble. There was a large quantity of phosphates, and it was only a matter of three weeks before the woman was entirely well. I gave sodium phosphate and sodium benzoate combined with lithia salts.

Cardiac cases are often misunderstood and not treated properly. These are the cases which do so badly when we send them to the seashore.

Dr. Douglas Graham, Boston—I think it is generally conceded that electricity can be left off in neurasthenia. As to the massage, it depends of course upon how it is done. In these cases the indications are very definite for the use of massage, as it is almost sure to produce sound sleep if properly given in the evening to neurasthenics who have been wakeful. But if neurasthenic patients who sleep well without massage are masséed in the evening they are sure to be wakeful after it, and yet they do not feel the loss of sleep next day; they have gained something after all.

Dr. A. E. Sterne, Indianapolis—It seems to me that it is utterly impossible, in a condition like neurasthenia, to lay down a set rule for any case or even the majority of cases. It is rather a condition, a state of things, than a disease. A great number of cases of unquestionable neurasthenia in their beginnings pass to more profound conditions, both of neurosis and psychosis. From the early beginning the possibility of confounding the condition with the milder grades of paresis ought to be kept in view. I do not see so much resemblance between melancholia and neurasthenia as between incipient paresis and neurasthenia.

DR. DANIEL R. BROWER, closing—The hot-air baths and the hot pack meet the very important indication of elimination by the skin, and are both sedative to the nervous system. The hot pack should be given on a lounge close to the bed, so that the patient may be placed in the bed without exposure. As to electricity, one of the mysteries of the times is the fact that we have so many in the profession who fail to realize the curative power of electricity per se, and refer its effects to suggestion alone. Yet these same persons must recognize its great economic power; the electric light, the telephone and the automobile must constantly force this upon them, and then they must recognize its power to decompose water, and destroy tissue. Even regarding it as a purely suggestive agent, I ask those who decry its use, what more convenient agent of this sort can you find? But I beg of them to consider carefully the physiological action of the several forms, in use, before they begin their suggestive treatments.

INTUBATION IN PRIVATE PRACTICE, AND ITS PERFECTION.*

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You probably know that intubation was formerly received in Europe with great reserve, and also that the ingenious operation of O'Dwyer is practiced at the present time only by our clinicians. The reason why our practitioners have not much inclination for the endolaryngeal method is, that, being so conservative, they in this case apprehend that intubation is an operation immensely difficult to learn, and accompanied by a great number of dangers.

One who is experienced in the matter knows that these apprehensions are exaggerated, that intubation is not at all more dangerous than tracheotomy, and that its sphere ought not to be limited to the hospital. But prejudices of that kind, if they once exist, will not be removed by the reports of single persons, however splendid they might be, but only by extensive, thoroughly authenticated statistics.

In the summer of 1899 I took the trouble to procure data concerning intubation, and I believe with best success. I applied to 89 American and *European* authors, and that as well to friends as to opponents of intubation. What I learned was:

	Physicians.	Have done, Intubations.	Recoveries before 1894. Per cent.	Under Serum-therapy. Per cent.
In Germany	12	56	..	66
In France	8	437	39	77.11
In Galicia	5	165	30	89.9
In Italy	4	265	22.5	76.9
In Norway	..	..	..	..
In Austria	6	74	43	95
In Russia	1	4	..	100
In Switzerland..	3	18	42.08	100
In Spain	1	322	..	77.7
In Hungary	2	63	61	60
In Europe	42	1404	39.59	82.58
In U. S. A......	13	4066	31.5	81.5
Total	55	5470	35.54	82.04

These fifty-five reporters think intubation in private practice just as useful as in clinical service; twenty authors had no personal experience in the matter. The rest remained in decided opposition. It may be noticed that the latter ones together disposed of but seventy-three cases, seven of them never proved the effect of the operation in private practice. The common reason given for opposition was that the dangers of the after-treatment would be greater in practice; that therefore it would be necessary to keep the children under continued medical surveillance and that this very surveillance would be, under ordinary circumstances in practice, a matter of impossibility.

This apprehension was perfectly disproved by the reports of numerous well-experienced authors. There were reported but thirteen accidents: two deaths caused by sudden obstruction of the tube, 10 deaths caused by spontaneous detubage, and one in consequence of suddenly reappearing stenosis after extubation, absente medico.

My report given to the Gesellschaft fuer Kinderheilkunde at the Seventy-first Congress of German Naturalists and Physicians in September, 1899, stated, that: "the practitioner will have the same right—not to say obligation—to use if necessary and carry out intubation, and 2, the endolaryngeal method will give to him as well as the clinician much better results than tracheotomy.

The discussion following my essay proved that the number of opponents to private intubation was apparently reduced, on the face of these facts. Only one speaker emphasized the necessity of medical surveillance on consideration of the great dangers.

If we demand constant medical surveillance, intubation is out of the question. But at all events, we are obliged not to acquiesce with the results already gained, but to aspire to further perfection of the method, and this as long as intubation is accompanied by dangers, even very remote. On this behalf we ought to consider three points:

1. What common duties arise for the physician to undertake an intubation? 2. What method of technical execution is to be mostly recommended? 3. Which model of tubes hitherto existing is preferable to other ones, and is an improvement of the instrumentarium desirable and possible?

1. There is but one opinion about the first point: A physician should not proceed to the operation until he has sufficient previous practice on cadavers and animals. Besides he is to give instruction to the parents about the advantages and disadvantages of the bloody as well as the bloodless method; the alternative should be left to the parents. He should personally supervise the patient as well after introduction as after extraction of the tube as long as a momentary danger could be thought of. He should leave the patient only under the care of a reliable and well-instructed person, or nurse, and should never retire too far or too long from the patient.

2. As to the technique, it is rather indifferent how the tube is inserted if the operator succeeds in placing the tube quickly and without injuring the mucous membrane of the larynx in any way. It is a different question which caliber of tube is to be chosen. If the execution of the operation is a matter of manual ability the choice of the tube for the single case is the matter of clinical experience. Generally speaking one can say: If there are no especial indications to choose a tube of small caliber for the purpose of intermittent intubation, according to Francis Huber, tubes of that size are preferable which can just pass the larynx without being forcibly pushed in. The possibility of delicate introduction is always the condition sine qua non, otherwise the large caliber will be the best safeguard in preventing the most disagreeable drawbacks of intubation, sudden obstruction

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* Translated and presented by Dr. Louis Fischer to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

and spontaneous detubage. Certainly another danger of intubation seems hereby increased: The danger of making a false passage. But this will occur very seldom if we do not injure the mucous membrane while inserting the tube, and besides we know no means now to prevent the danger. In the first place we are able to abbreviate the treatment by early injecting the required amount of antitoxin, and secondly we can use tubes of a material which will not be injured by the secretions of the mucous membrane, and vice versa will not injure the latter on its part. There is not much to be said about the operation itself. Manual ability and clinical experience are individual matters and will always call forth great difference in the results of the operators. But as to the instruments, the question is deserving of further discussion and a perfection of them might be for the general good.

3. Which model or kind of tubes now existing is preferable? As I know by my rather extensive international inquiry the opinion of nearly all the experienced intubators, I may define the question more precisely: Which model of O'Dwyer's tubes is preferable? The French tubes of Courts and similar ones may serve quite well in some cases, but they have not been received everywhere and this for good reasons.

Let us examine the models in proportion to the dangers of intubation. As to sudden obstruction it is rather indifferent which kind of tubes we use if we only take tubes with as large a lumen as possible and while introducing them avoid forcibly detaching membranous casts. The danger of detubage is best eluded by using tubes which remain in the larynx as firmly as possible. O'Dwyer himself has modified his tubes for this purpose providing them with a second swelling or bulge at the end of the tube. The effect is an excellent one. Spontaneous detubage happens rarely with these tubes. The third drawback of intubation remains—the danger of detubation. Here the material as well as the construction has to be taken into account. The tube must be of such quality that no harm is done to the mucous membrane in any way. So it must not have sharp edges and corners; it must be fitted as much as possible to the configuration of the larynx and trachea, it should not press nor irritate the mucous membrane.

In comparing the metal tubes of O'Dwyer with the model he last invented, the rubber tubes, we already see by simple theoretical consideration the superiority of the latter ones. The rubber tubes provided with the second swelling above mentioned will be very seldom coughed out; besides, being five times less heavy than the metal ones, they exercise less pressure on the mucous membrane, and finally they are made of a material which is very resistant to chemical influences and can be made very smooth. As not theory but practice decides in such questions I again undertook a little inquiry the results of which, with one single exception, were exactly what I expected. I used rubber tubes in six cases last winter and did not see difficulties of deglutition or obstruction, detubage or decubitus, though there were some severe cases.

Besides, I proved them in my course on intubation, introducing in adults at first the metal tube, without swelling at the end, for children of 13 years, afterward inserting the rubber tube of the same size. While the latter one remained in the larynx, even if there was violent choking, vomiting and coughing, the metal tube was always coughed out promptly. I had similar experience in my practice with children. The cause of this I see is the better adhesion of rubber to the mucous membrane.

To confirm my own observations I applied to Bokay, of Budapest, Bonain, of Brest, Dillon Brown, A. Caille and Louis Fischer, of New York City, Massci, of Naples, and E. Rosenthal, of Philadelphia. These gentlemen had intubated some hundred cases with rubber tubes, and state, excepting Rosenthal, that in using rubber tubes with suitably large caliber, accidents, such as obstruction, detubage and decubitus, occurred less frequently than with metal tubes. The reason for this is the light weight of rubber tubes, especially since the material does not suffer under the influence of the secretions of the mucous membrane as any metal will do. On this tube even in long use no concrements will be deposited which would injure the smoothness of the tube, and vice versa the mucous membrane. As a particular advantage of the rubber tube it is noticed by Bonain that they give less difficulties of deglutition on account of their light weight. Massei notes that in the new instrument set there are seven tubes instead of six, and so a better caliber will be possible.

Rosenthal alone reports bad results with rubber tubes. He noticed deposits as often as in the metal tubes. In 25 per cent. out of eighteen cases he stated decubitus, in three instances sudden heart failure. He also observed difficulties when he was ready to remove the tube on the fourth or fifth day. A decided reason for this he can not give.

Yet the reports of the other authors and of my own experience are so favorable as to the rarer occurrence of accidents as well as to the final results that we might dare to recommend the rubber tubes for common use. However, the report of Rosenthal requires us to act with great precaution and urge a further perfection of the instrument.

Commonly it is wrong to let theory speak before practice, but my propositions shall serve first to point out the weak points in our instruments, and besides I believe that if you, gentlemen, think my ideas good, you will be able to transpose them into practice quicker and easier than I can in this country.

I am of the opinion that very many lesions of the mucous membrane of the larynx, especially such done by beginners, originate in this, that the operation is still performed with an instrument entirely inflexible. If we should have the handle of the intubator manufactured in a material moderately springy, the instrument would have a certain latitude and could during insertion rebound better from an obstacle. Grave lesions, the forcing of wrong passages would be in future nearly impossible, as the operator would have his action better in control. Naturally the slide of the intubator, which is also now rather imperfect, would have to be omitted and the management should be altered in such a way that the erected index would lie on the obturator to regulate the pressure and to prevent an undesirable giving away. To give a support to the finger it would be necessary to broaden the obturator on its adjoined piece so as to level it on the top. Intubation would then resemble to a certain degree the harmless introduction of a hard-rubber probe.

We approach this idea still more if we also modify the construction of the tube. If you examine a rubber tube you will notice that the lower part of it occluded by the head of the obturator does not show a perfect rotundity. The tube's large end is horizontally cut off. The head of the obturator projects without transition like a long top, consequently it is undisputably more difficult to insert rubber tubes than the original metal tubes, because the former are much easier entangled by their broad bases especially in cases of cicatricial stenosis of the larynx. It can become almost impossible to introduce them, while probes even of large caliber can pass easily. For the same reason I *think the mucous* membrane will be lacerated by rubber tubes if the opera*tion is not carefully executed.*

The necessary modification is not difficult to be found. The lower swelling of the tube must be diminished so that the outlines will show a regular oval. The point of this oval is formed without transition by the head of the obturator. The lengthening necessary is insignificant. I hope I shall very soon succeed in demonstrating to you a model of it.

There is still another drawback to be removed, which is less important in rubber tubes, but as it could be the cause of decubitus in cases in which the mucous membrane is extremely *delicate it merits our full interest.* L. Bauer has first called our attention to the fact that the vertical axis of the trachea in children is deviating backward—to the vertebral column—from the axis of the larynx, and this the younger the child is. Bauer has limited his anatomical studies to the material in the children's hospital in Budapesth, and it is possible that his trustworthy though unconfirmed observations are confined to singularities of race of the Hungarian population. A deviation in such a high degree—168—will probably not be the rule in other countries. But as everywhere it is stated that next to the cricoid cartilage the anterior wall of the trachea corresponding to *the end of the tube is the favorite spot of decubitus,* it follows that the observations of Bauer must be correct, at least in a general way. Besides, you can ascertain on sections of the head that the end of the tube is riding on the anterior wall of the trachea so that in vivo there must be in speaking, coughing, and swallowing a continuous friction. Based on these observations, Bauer constructed proper tubes of metal. The vertical axis of these showed a considerable recurvation backwards; the ordinary swelling of the tube was lowered some millimeters also to avoid a pressure of the cricoid. These tubes are not yet in vogue and were not liked in the few clinics—Budapesth and Leipzig—where they have been used; above all, it was said that they were *rather difficult to* be inserted into the larynx. Yet it must be noticed that decubitus occurred with them less often. One can understand this, as the front part of the trachea is discharged and thus I propose to also give the rubber tubes a small incurvation backward from the middle swelling. This should not be as pronounced as in Bauer's tubes. The transferring recommended by Bauer of the middle swelling to the height of the first cartilage of the trachea I think a mistake, as thereby the tube loses one of its best supports and can rub against the cricoid more than ever whilst the larynx is ascending and descending.

Roussel's Sign in Incipient Tuberculosis.—The *Semaine Médicale* of November 28 states that experience has confirmed the accuracy of the sign pointed out by Roussel as an indication of tuberculosis in its early stages, namely, the sharp pain caused on light percussion in the subclavicular region between the clavicle and the third or fourth rib, originating 3 to 4 cm. from the median line and extending to and beyond the shoulder and the supraspinal fossa. Occasionally the subspinal fossa is sensitive to pressure. He attributes this cutaneous hyperesthesia to a reflex neuritis or myositis from propagation. In every case it is exactly over lesions of dry pleuritis in the apex. He has noticed it recently in a young woman who is a hysteric with absolute anesthesia.

TRAUMATISM DURING INTUBATION—ITS PREVENTION AND TREATMENT.*

DR. JOHANN VON BOKAY.
Extraordinary Professor at the University of Budapesth, and Supervising Physician in Charge of the Budapester Stefanie Kinderspitals.

In studying the literature of the O'Dwyer method of intubation we should really feel that everything that can be said in favor of or against it has been mentioned, and still we find a great deal requiring more careful elaboration; thus, the question of decubitus has not been given as much prominence as it deserves. True it is that all intubators must have found laryngeal ulceration resulting from pressure of the tube, and O'Dwyer, and later, Variot, the chief of the Trousseau Hospital, and his associate, Bayeux, besides Glover, Baudrand, and Marie Schultz, are among those whose attention has been directed to this particular portion of the subject. The French collective pediatric study of Grancher, Marfan and Comby on this subject appeared in a publication entitled "Laryngites Traumatiques Consecutives Au Tubage." This is the most valuable contribution to literature that can possibly be imagined. It seems as though the enthusiasts for intubation have been afraid to *publish* their clinical results, more especially their decubitus cases, owing to the fear of burying this valuable operative measure in the same manner as the Bouchut intubating method disappeared in the *fifties.* Let us hope that a careful study of this serious interference with the blessings of this operation will disappear and that the operative treatment of fibrinous laryngitis will be the same the world over as it has been in the United States, and that intubation will supersede the bloody operation of tracheotomy.

Since 1891 I have operated and observed more than 1200 intubation cases in the hospital under my immediate supervision. I had always noted traumatism following intubation in a series of cases, so that I now desire to lay this matter before you to encourage discussion.

Traumatism can result during the act of intubation in three *periods: during the introduction of the tube,* while the tube is in place, when the tube is withdrawn.

I *shall follow the classification* of Variot and divide this into three parts:

1. Traumatism may result "from denuding the mucous membrane or, in the formation of a false passage." Massei, the Neapolitan laryngologist, speaks of fracture of the tracheal rings during intubation. Slight lesions of the mucous membrane are mentioned by O'Dwyer, Jacques, Gillet, Valdemar, Damm, and Variot. If it is necessary to intubate often, and in short intervals, and that the mucous membrane will be injured repeatedly, then it certainly will be a serious matter for a laryngeal diphtheria in which the larynx already in a pathological state receives additional traumatic lesions. Such deep-seated lesions might result during the introduction of the tube if subglottic swelling or very thick pseudo-membranous masses obstruct the entrance to the tube. Hemorrhage has been known to occur in case of an abscess opened by the introduction of the tube.

2. Dillon Brown speaks of false passages, as early as 1887. He mentions two distinct cases ending fatally. In one, the tube perforated the ventricle of Morgagni

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* Translated and presented by Dr. Louis Fischer to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

and got to the side of the larynx under the skin. In another instance, the posterior tracheal wall was penetrated so that the tube was between the esophagus and trachea. Rauchfuss, in 1890, speaks of four cases of "fausse route." Damm, 1896, saw in Paris one of Variot's cases of this kind, in which the tube perforated the ventricle. The number of cases in which false passages can be traced is very small. Trumpp does not believe this. Riss and Bensande, in 1896, describe two forms of false passage; in the one it begins behind the epiglottis penetrates the membrane thyrohyoidea, whereas in the second form the tube penetrates the ventricle, either directly or indirectly, through the vocal cord.

Heymann, whose investigations were conducted with Variot's material, saw three cases of false passage. In one case the tube was forced through the left glosso-epiglottic fold, and thus appeared through the tongue. In another case there was a perforation of the ventricle and lodged in the intercrico-thyroideal fold. Variot, in 1898, saw four cases of false passage among several hundred intubation cases. Besides three cases seen by Heymann, he saw but one case in which, as a result of the false passage an "ichorous phlegmonous abscess resulted." According to Variot, the false passage is usually made through the ventricle, and the tube with its introducer is usually pushed in the fold to the cricothyroid membrane, which it perforates. Among 1200 cases of intubation seen by me, four cases of false passage have been noted. They originated in the same year, and thus it is apparent that possibly the same hand that intubated caused these four false passages.

Case 1.—K. E., 22 months old, entered the hospital on Jan. 11, 1893, with a laryngeal diphtheria, and was intubated immediately. On the 12th the tube was expectorated; re-intubation very soon followed. On the 14th, 9 a.m., extubation with the string attached to the tube; at 10 p.m. the same day re-intubation was found necessary. At midnight of the 16th the tube was expelled, and at 4 a.m. was reinserted. On the 17th the child appeared asphyxiated in spite of the tube being in place, which required immediate extubation. It was found necessary to re-introduce the tube at once. At 10 p.m. the same evening the tube was again expelled, and a larger size tube inserted. On the 20th, 9 a.m., extubation, re-intubation in an hour. On the morning of the 23d the child pulled the tube out; asphyxia followed requiring immediate intubation plus artificial respiration. From the 11th to the 23d of January the temperature ranged between 38.5 and 39.7 C. The tube was *in the larynx in all 283 hours; there were 8 intubations* and extubations. At the post-mortem, on the right side of the larynx was a small irregular ulceration near the aryepiglottic fold surrounded by granulated edges, extending to the peri-laryngeal connective tissue, from which it extended anteriorly and downward. The mucous membrane on the right side of the larynx was filled with bloody granulation in the portion overlying the vocal cord, beneath which yellowish-red scars exist, showing loss of substance. The left processus vocalis is bare, and on the sixth to the ninth tracheal ring the mucous membrane and the perichondrium are missing. The formation of the false passage evidently took place on the 23d when the sudden appearance of asphyxia demanded rapid intubation; the severe and diffused decubitus in the larynx undoubtedly caused the false passage.

Case 2.—N. E., 3½ years old, entered on April 4, 1893: diphtheric stenosis is so severe that rapid intubation is called for—9 p.m. At 11 p.m. of the same evening the tube was expelled and re-intubated one-half hour later. On April 5, 6 a.m., tube was coughed out; the child breathed naturally without tube until 9 a.m. A sudden stenosis then made its appearance, demanding immediate intubation. A severe perichondritis thryeoidea followed. At 3 a.m. of the 6th the tube was expelled; re-intubation at 4 o'clock, without entirely freeing respiration. At 8 a.m. on the 7th the child drew out the tube, but the same had to be re-inserted a few minutes later. Respiration was scarcely any easier. On the 8th there was catarrhal pneumonia of the two lower patches. Death occurred on the 9th. The temperature ranged from the 4th to the 9th between 38.5 and 40 C. The tube was in the larynx in all 101½ hours. Number of intubations were 5.

Post-mortem: Perichondritis partis anterioris et processus vocalis sinistri cartilaginis thyreoideæ. Recessus ex sinu Morgagni dextro, in textum cellulosum prælaryngealem, inter lobos glandulæ thyreoideæ tendens. Decubitus *milium* æquans sub chorda vocali dextra.

To determine when the formation of the false passage took place, it is hardly possible in this instance, but considering that the symptoms of perichondritis thyreoidea appeared on April 5, the presumption is at hand that the false passage occurred during the first intubation. It is to be regretted that there is not a more detailed record as to the manner of the first intubation. We do not find any other circumstances recorded which would explain the perichondritis during the second 24 hours of the child's stay in the hospital, while the post-mortem examination shows that the decubital ulcer was in this instance only slightly advanced.

Case 3.—P. H., 5-year-old girl, entered on April 17, 1893, suffering with diphtheric stenosis. Intubation was made at 4 a.m. At 9 a.m. on the 19th, extubation; re-intubation at 5 p.m. At 9 a.m. on the 22d repeated extubation, but half an hour later the tube had to be re-inserted. At 6 a.m. on the 23d the tube was expelled; half an hour later immediate re-intubation necessary. At 6 a.m. on the 25th the tube was expelled, and the child breathed fairly well without it for three days. On the morning of the 28th, re-intubation; at 7 p.m. the tube was expectorated. Next intubation at 11 p. m. of the 29th. On the 30th, at 3 a.m., repeated expectoration; an hour later intubation, the child reviving with difficulty. The tube was again expelled at 7 p. m. At 1:45 a.m. on the 1st of May a sudden severe attack of stenosis, cyanosis and asphyxia occurred, continuing even after re-intubation had been effected. Shortly thereafter death occurred. The temperature ranged between 38 and 39 C. Intubation lasted 208 hours; number of intubations, 8.

Post-mortem: Perichondritis cartilaginis cricoideæ. Ulcus sinuosum ex sinu Morgagni dextro in textum cellulosum prælaryngealem tendens.

The false-passage formation in this instance probably took place on the night of May 1, when the alarmingly difficult breathing demanded immediate intubation. The ulceration of the ventricle Morgagni no doubt contributed to the formation of the false passage. The perichondritis cricoideæ may have originated from the ulcerated larynx.

Case 4.—R. G., 2 years old, was admitted on May 1, 1893, because of diphtheric stenosis; immediate intubation. Respiration became perfectly free. At 9 a.m. on May 3 the child draws out the tube. Symptoms of perichondritis *laryngea* were manifest. At 11 a.m. there occurred rapidly increasing stenosis, repeated attempts at reintubation, but without success. Tracheotomy *in asphyxia* was done. Following artificial respiration, and after the child had regained consciousness the *canula* was removed and a tube admitted into the larynx. At 6 p.m. the tube was expelled, followed by immediate re-intubation. Respiration became no freer. Death occurred. The tube was in the larynx 55 hours in all; number of intubations, 3.

Post-mortem: Recessus fabam æquans ex sinu Morgagni dextro, in textum prælaryngealem tendens, cum parietibus necrotis.

The false passage in this case was undoubtedly formed on May 3, when repeated unsuccessful attempts at reintubation were made. It also appears that as the patient had to be reintubated at 6 p.m., after expectoration, the tube got into this false passage, which explains why respiration would not become free. I am unable to explain the cause of the perichondritis, since its symptoms were already noticeable on the 3d.

Aside from Variot, only Heymann has made a thorough study of the symptomatology and diagnosis of the false passage. The diagnosis is made easier by one cardinal symptom, namely, that respiration does not become freer after the introduction of the tube, but on the contrary ceases entirely after a short lapse of time. On palpation at the entrance of the larynx, we find the head of the tube to bein an oblique position; in some instances we can even feel the lower end of the tube through the skin over the larynx, or on the side. After the false passage is formed, copious bleeding or bloody secretion may occur, if the tube is immediately withdrawn. Within a few hours after its removal, emphysema of the subcellular tissue may appear in the vicinity of the false passage. We take this opportunity of remarking that emphysema subcutaneum in an intubated patient can also result from alveolar rupture, as the two cases published by us in 1894 prove beyond a doubt. According to Variot, the tissues surrounding the false passage soon show symptoms of inflammation, and shortly thereafter an abscess forms on the side of the larynx—abscessus peri et latero laryngealis. The false passage may furthermore cause perichondritis thyreoidea and cricoidea, in which event the suppuration under the perichondrium often develops into pyemia.

There are no symptoms which would show a denuding of the mucous membrane. It is impossible to see them, excepting with the aid of a laryngeal mirror. It is frequently noted that hoarseness may result—so-called aphonia—long after the tube has been removed. This has already been mentioned in the third portion of my article. The prognosis of the *fausse route* is usually bad. Frequently it is mild and does not cause suppuration in the connective tissue or a perichondritis. Under normal anatomical conditions, we frequently find an opening covered by the perichondrium—the so-called foramen thyreoideum—which is about 1-6 mm. and through which the superior laryngeal artery frequently passes. If the end of a tube will enter into this fold by reason of a defect in the cartilage then a fatal hemorrhage might result owing to the perforation of the larynx. Where a distinct false passage exists it is hardly possible to expect a cure without performing tracheotomy. Heymann saw among the material of Variot, that after a false passage and the removal of the tube no stenosis of the larynx existed, and the child was able to breathe without a secondary tracheotomy, but the prælaryngeal abscess cicatrized very slowly, and the final healing was long drawn out. The simple desquamations of the mucous membrane, which are superficial wounds, have no real prognostic value.

The prophylactic treatment of traumatism resulting from the introduction of the tube requires a few words regarding the technique of the introduction of the same. Traumatism resulting from the introduction of the tube can also be caused by improperly constructed tubes, although the majority are caused by carelessness during the introduction. To properly intubate, we must be thoroughly acquainted with the details of this operation.

O'Dwyer has insisted on practicing on the cadaver, as well as on cats and dogs, in order to familiarize ourselves with the technique. I recommend intubating children that are not suffering with stenosis, but rather where a tracheal fistula exists. Palpation of the larynx through the mouth, also of the epiglottis and of the aryepiglottic folds. I first learned intubation on a child having a laryngeal fistula, and I make it a rule to instruct others in the technique by demonstrating the anatomy of the parts concerned on the living, and when they are proficient then I take them to a mild case of convalescing stenosis. O'Dwyer maintains that nothing is more erroneous than to believe that intubation of a skilled operator is a simple matter, and thus it is that a novice watching an expert will regard the operation as a simple matter. Waxham says that in order to obtain the most satisfactory results the operation should be performed only by those who by special aptitude and careful training are capable of doing it quickly, gently and skilfully; it is necessary to practice extensively so as to master all details. It is very difficult for those not having previously practiced. Thus, Dillon Brown says, I know of no operation in surgery which is more brutal and shocking than the efforts of an unskilful man to intubate. The position of the patient is an important one; next is the fixing of the gag, then the dilatation of the mouth. We can not put the tube in its proper place unless the mouth is stretched ad maximum. Heubner's method, quoted by Carston, allows the patient to be held flat on his back in bed. My idea is to follow O'Dwyer's method and have the patient in a sitting position. All details pertaining to the choice of tubes and the instruments must be carefully examined before commencing the operation. They should be boiled in a soda solution to render them sterile. Edwin Rosenthal, Philadelphia, insists on having the tubes plated after the use of the same. I should be glad to follow his advice. Before introducing the tube, it is well to wash the pharynx with a 4 per cent. boric-acid solution; "lavage antiseptique" of the French. Some use a carbolic acid and cocain solution, which I do not regard as practical.

Huber says it is necessary that the instruments should be worked in the median line. This is an important point, for as soon as the tube reaches the larynx, if we do not work in the median line we may enter the aryepiglottic fold or in the folds of Morgagni. Inexperienced operators usually enter the ligamentum epiglotticum medium between the root of the tongue and the vallecular line near the epiglottis. It is a good point not to push the obturator too soon, as otherwise we can damage the mucous membrane. The Bayeux-Collin instrument can not be compared with the O'Dwyer, as I have had no experience with the same. Thus I must repeat that a tube should be introduced gently and without force. Trumpp says that the hand must hold the tube gently, as though it were made of a very fragile substance. Although it is possible that in subglottic swelling the proper-sized tube can not be introduced; then it is our duty to introduce a smaller tube. Some authors contrast intubation with catheterization of the bladder, and compare the dangers of using force. Congenital stenosis of the larynx, as I saw in a child 14 months old, necessitated performing tracheotomy to prevent suffocation. The child died with symptoms of bronchitis crouposa, and the section showed that there was a congenital stenosis.

Dillon Brown, speaking of false passages, says that in the two cases which have come under his notice of false passages made in attempts at introduction, an unjustifiable amount of force was used to push the tube in place. In smaller children up to the age of 2 years, Gallatti has proved that the openings of the folds of Morgagni are so narrow that the end of the tube cannot enter therein. After making a false passage, it is the wisest to remove the perforating tube and to immediately follow it by a secondary tracheotomy.

Sevestre and Martin recommend the renewed intubation, but I do not believe that such an experiment can prove successful, as we usually enter the same false passage previously made.

Heymann says: *"S'il s'est produite une fausse route, la tracheotomie doit etre pratiqué pour permettre aux larynx de se cicatriser sans le contact d'un corps etranger."* Thus it is possible that without repeated intubation or a secondary tracheotomy healing may result. The possibility of producing a false passage may be a shady side of intubation, but let the opponents of the O'Dwyer operation remember that there are many more chances of producing a false passage, while performing tracheotomy. Marie Schultz says: *"on ne peut pas rejeter une méthode—à cause de l'inhabilité des opérateurs."*

DISCUSSION ON PAPERS OF DRS. TRUMPP AND VON BOKAY.

Dr. William M. Welch, Philadelphia—I have often felt that intubation in private practice is accompanied with much greater risk than in hospital; indeed, I have often wondered how a physician in private practice could give the necessary attention to a troublesome case. It is true that in the majority of cases of intubation after the tube is introduced no further attention is required until it becomes necessary to remove it; but there is a large number of cases in which there is much trouble. Frequently a child will cough up the tube as often as half a dozen times in a single night, and its immediate reintroduction is necessary. I can recall one or two instances, at least, in which death resulted because the physician could not get from his room in the hospital to the child in the ward quickly enough to replace the tube in the larynx. It is not uncommon, even after the speediest possible reintroduction of the tube, to find it necessary to resort to artificial respiration. I feel sure that such cases in private practice must terminate fatally.

As to the matter of the size of the tube, I would say that I find it necessary occasionally to deviate from the standard laid down by O'Dwyer. Sometimes it is necessary to use a smaller tube at first, and a little later it may be possible to introduce the standard size considered suitable for the age of the child. Again, the opposite may be true: The tube of the size supposed to be suited to the age of the child is coughed up almost immediately, necessitating frequent re-introduction, or the use of a larger tube.

I do not think there is much choice between the metal and the rubber tubes, although I am somewhat disposed to favor the latter because they do not collect chalky deposits. One might suppose that rubber tubes being lighter than metallic ones would be more likely to be coughed up, but this does not seem to be the case; indeed, I believe the tube is retained in position not so much by the weight as by the bulge in the middle of the tube.

About the only accident that I recall having seen in the operation of intubation is pushing down before the tube large pieces of exudate. This occurs every now and then, and always interferes with respiration and necessitates the hasty removal of the tube. If the exudate has been completely detached, it will be expelled. I have seen large and complete casts of the larynx, and even of the trachea, detached in this way and coughed up. We have in our collection at the hospital a beautiful cast of the larynx, trachea, both bronchi and several subdivisions of each bronchus, all in one piece When the exudate extends below the lower end of the tube, the latter will not, of course, be of much service. Even when it is detached and expelled it frequently reforms. False passages may be caused in the operation of intubation only by inexperienced operators. In regard to the injuries from extubation I would say that it is possible to do violence to the glottis if the beak of the extractor is permitted to open too widely. I have often thought that a serious difficulty might be met with if one blade of the beak of the extractor should happen to break off and drop down into the tube or trachea. I have never heard of such an accident. I have seen a disproportionately small tube drop down so low in the larynx as to be beyond the reach of the extractor. I recall two instances of this kind. In one case it was necessary to do tracheotomy, and in the other the tube was coughed up.

In one of the papers presented, I think the author referred to ulceration of the larynx caused by the tube. I have met with a few such cases and they all proved very serious. These ulcers are most liable to occur at a point in the larynx corresponding to the bulge of the tube, and at its lower extremity. The tube should not be worn any longer than is necessary, as it is a foreign body, and liable of itself to do injury.

With regard to the use of antitoxin in the laryngeal cases of diphtheria, I must say that my experience is not so favorable as that expressed by the author of the paper and most other writers. I am obliged to confess that I have been disappointed in its use. It occurs to me that it is scarcely fair to compare the results in intubation at the present time with the results before the days of antitoxin, since intubation is now more generally and skilfully performed. I believe that intubation is now done earlier in the disease than during the pre-antitoxin periods. In 1895 antitoxin was not as abundant as at present, and in Philadelphia we were obliged to rely on that obtained from other countries, more particularly Germany. During that year, it so happened that about one-half of the intubation cases received it and the other half did not, and the difference of death-rate was 3.39 per. cent. in favor of the antitoxin cases. In that year we limited its use to cases in the early stage of the disease. The far-advanced and moribund cases did not receive it, and this may account for the higher death-rate in the non-antitoxin cases. Our death-rate at the hospital since then, in intubation cases which received antitoxin has varied annually from 58 to 68 per cent. In 1894, the year preceding the introduction of antitoxin, the death-rate was 75 per cent., much higher, it is true, than it has been since; but diphtheria in 1894, as every one knows, was exceedingly severe in every country, and the death-rate was higher than it has been since, or than it was for many years preceding that date.

We have lately had at the hospital a great deal of unpleasant experience with croup in measles. I never before saw croup so fatal. The question is: Is it true diphtheria? Sometimes the Klebs-Loeffler bacilli are found, and sometimes they are not. In many of these cases the croup appears quite early —before the rash has disappeared—and intubation is required. This operation relieves the stenosis, but death almost invariably occurs. I do not think that this form of croup is necessarily the result of the formation of a diphtheric exudate. I have seen exudate on the tonsils, but frequently it is absent. It has been found post-mortem in the larynx. I think that in some of the cases the stenosis is due to intense congestion and swelling of the mucous membrane of the larynx, causing a spongy condition which, in the child, is sufficient to interfere with respiration. I could cite two very perplexing cases in which we found it impossible to get rid of the tube. Even after 4 or 5 weeks, on moving the tube severe and dangerous symptoms of stenosis appeared, necessitating its immediate reintroduction. Tracheotomy was at last performed, and in the case which survived we now find it impossible to do without the tracheotomy tube. I wonder what the ultimate result will be.

Dr. J. E. Rigg, Wilkinsburg, Pa.—What Dr. Welch has said regarding the advantages of hospitals in intubation cases is certainly true, as private practitioners know only too well. The best that we can do is to secure a competent nurse, train her in the care of intubation cases, and have such a nurse in constant attendance on these cases. My own experience with the tube has not been as satisfactory as has been generally reported. The cases have not been relieved, because, as I believe, the membrane has extended below the tube. I have had casts of membrane discharged, yet the symptoms would not be relieved.

Many cases receive antitoxin too late to expect good results.

My own use of antitoxin has been favorable, with two exceptions, and these cases received it too late. I know of a physician who gave a death-rate of 40 per cent., and it was explained by the fact that antitoxin was administered too late in every instance. I believe antitoxin has reduced the death-rate very materially, and if given early enough the results will be much better than in the past.

DR. A. CAMPBELL WHITE, New York City—Before we used antitoxin, for a period of six or eight months we kept very careful statistics of our croup cases, including, of course, intubation cases. We were able to save about 50 per cent. of our croup cases, which was much better than we had ever been able to do before. Only a small proportion of these cases were intubated, for at that time I did not think it wise to intubate a case unless it seemed absolutely necessary. Because of this, although we had a very high mortality in our intubation cases, the mortality-rate was very good in the croup cases as a whole. I was unable to save over 20 per cent. of my intubation cases at the hospital under this rule. Of course, in private practice one could not wait until the last minute to perform intubation, it being necessary often to intubate as soon as called in to see a child. That difficulty seems to me to have been overcome by the use of antitoxin. I believe now in intubating early—in*tubating* any child having even a moderate stenosis, and using antitoxin as well. I am of the opinion that the greatest benefits *from* antitoxin have been in the intubation *cases.* Before *the* use of antitoxin in New York City I feel sure that intuba*tion* was *generally* used; *at any rate,* I personally saw a great *many* cases of intubation before the use of antitoxin. Even *though the figures* quoted may not be very much in favor of antitoxin, *it is rare to see figures* speaking *against* antitoxin. *The* epidemic may be very mild one year and severe another, or *other* factors may enter to vitiate the statistics. I feel that *any one who has seen much* of diphtheria treated, both with and without antitoxin, must feel that he sees something happen in the antitoxin cases that he never saw before the days of *antitoxin.* I never used to see a child, apparently very ill with *diphtheria* one day and almost well the next, but I do now under the use of antitoxin. I remember one day when giving a demonstration in the diphtheria wards to a class of students a case of diphtheria came in, a child of 5 or 6 years of age. The little girl was apparently dead. We *inserted a tube, and* performed artificial respiration. This was before the use of antitoxin. In a few minutes the *child had recovered, and be*fore the students had left the hospital she felt like *sitting* up in bed. These students were deeply *impressed, and felt that* intubation would save that child, but I told *them that in* spite of the favorable appearance just then I thought the child would not recover, *and this proved* to be the case. The child *died of septic pneumonia.* This does not happen now, for the *use of antitoxin seems to have entirely* changed the character of the disease, *that is as to almost* constant development of *septic pneumonia.*

I *have never seen* or known of a case of false passage from careless intubation. I have frequently pushed down membrane before the *tube in my* hospital cases, and with one or two exceptions, tracheotomy has been *demanded.* *I recall one* case in particular in which intubation was *performed* by my assistant, who was an expert intubator. The tube was immediately withdrawn and tracheotomy at once *performed, and* although the membrane did not extend farther than the bifurcation of the trachea we were unable to save the child. I think even when the membrane does extend far down relief is afforded by intubation because most of the stenosis is usually at the vocal cords. There is *a typical kind* of dyspnea which we get when the membrane extends down into the bronchi; it is more like the dyspnea observed in *pneumonia rather* than in simple stenosis of the larynx. Relief is afforded by *intubation,* though death ensues. The tube does *occasionally* fall down between the cords; but it is *an accident* which should not occur, as it is the result of using too *small* a tube. A case like the one referred to by Dr. Welch, in which the tube was coughed up, probably would not be met with more than *once* in a lifetime. The tube turns and can *not be* extracted in the usual manner; hence tracheotomy is demanded.

DR. LOUIS FISCHER, New York City—You will all probably remember the great ovation given to O'Dwyer in Berlin at the Medical Congress in 1890. At that time tracheotomy was quite generally used, so that I think Dr. Welch was wrong in saying that antitoxin and intubation came into general use about the same time. He is *correct, however, in stating* that both antitoxin and intubation are to-day used far more extensively than formerly. I *make it a rule to treat a* case of diphtheria as diphtheria, and to treat a case of so-called septic diphtheria as septicemia. Two days ago the statement was made here by Professor Vaughan that it was useless to give milk containing toxins which had been subject to the process of sterilization, for the toxins had remained undestroyed. *He* illustrated this point by saying, if you gave 1/50 grain of this toxin to a rabbit, death would be instantaneous. *In the same* manner he claimed that we could not destroy the toxins though able to kill the germs, so we know that there are some forms of diphtheria—especially this septic *type*—in which, although the Klebs-Löffler bacilli are destroyed there is an overwhelming of the *system* with the toxin. *The result is the occurrence* of paralysis and other complications, if not death. In such cases one might just as well inject plain *water as antitoxin, as these* cases are true toxemic conditions, yet these cases are include
in the statistics of antitoxin. I make it a *rule in a seve*
case to give one large dose of *antitoxin—3000 units—and if i*
provement is not observed in twenty-four hours, this dos
repeated. If, however, after the first injection I find the
brane is being shed and the general systemic condition
proving, the dose is not repeated. I look *upon antitox*
remedy or a drug, *and I want to get* the systemic eff
it just as I would from rhubarb *or castor-oil.* I s
to ask Dr. Welch, and also Dr. White *whether it*
that a pure, simple uncomplicated diphtheria wi
stenosis, even though *most malignant, will reco*
with antitoxin, and if also the opposite is not
though you may inject antitoxin *and intubat*
variety of laryngitis complicating *measles* pro
spite of *antitoxin.*

I was glad to hear from Dr. Welch tha
3.39 *per cent.* of recoveries in favor of an
tainly a grand admission, and I am h
summer Professor Kassenwitz, the grea
in Vienna, told me that he used *antit*
ion compelled him to do so. I feel t
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of *which I am* a strong advocate
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is often very short and in-
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can be had by splitting the
awl there. It is so directed as
he deepest part of the fractured
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el is then made in the upper frag-
assed. Some operators make a per-
through each fragment, permitting
the wire to lie on the joint surface of
addition to the objection of a foreign
er the joint at each movement, it must
t at the operation to bring the bones into
ron if stout wire is to be brought around
ngles. And if the wire has to be removed a
later, as occasionally happens, it will be dif-
apt to lacerate the articular cartilages. After
is in position the bones are brought accurately
r and the wire twisted; the twist can be made
line of the fracture and there buried, or at the
st *point and the wire buried in the tendon;* if the
st is too superficial it is apt to irritate the skin after
e patient begins to walk, and *may have to be removed.*
ny considerable *tear* in the capsule should now be
closed with catgut. Drainage is usually unnecessary,
but if the blood-clots were so very adherent and the joint

much manipulated, so that considerable effusion of serum may be expected, drains can be used for twenty-four hours. They can be laid at the side of the joint, close to some of the lacerations, so they may drain the joint without actually being placed in it.

In closing the wound the stitches should not be carried entirely through the tissues and the skin, as this would carry any infection remaining in the latter directly into the joint. Some of our most successful operators make a deep line of suture and report cases where marked infection occurred, with deep burrowing among the muscles, but in which the joint entirely escaped. Antiseptic dressings are applied, and a firm bandage, running high, to prevent spasm. A carved wooden splint placed on the under surface answers every purpose until the drain and stitches are removed, when light plaster-of-paris is usually applied. Surgeons are constantly shortening the period of complete rest after this operation, and I should not be surprised if, in the near future, the patient would be permitted to move his leg as soon as the external wound has healed. Even now, Phelps, of New York, makes passive motion at the end of the third week. When treated by long rest, either with or without operation, the joint is exceedingly stiff for months after the injury, and it requires great persistence, with massage and forced motion, to fully restore its usefulness. It has recently been claimed that examination by the Roentgen rays shows that in some cases, after wiring, bony union has not occurred. This may be an error of observation, as the rays would here have an unusual opportunity for penetrating the new bone, but if the union in these cases be not bony it is quite as good, "as it is strong and unyielding, rarely breaks and never stretches."

A little less than two years ago, Dr. Darnell, of Atlantic City, N. J., fell from his bicycle and fractured his patella, and ten days later I wired it. The operation was particularly difficult, owing to the lower fragment being very short and having a bevel that nearly paralleled the hole I proposed making; and, in addition, that same lower fragment had a horizontal split that completely separated it into an upper and lower portion. By splitting the tendon and starting the hole there I was able to grasp enough bone to give a satisfactory hold. The rest of the operation presented no difficulties and he made an uninterrupted recovery. Owing to the condition of the fragments, I felt obliged to keep the leg at rest longer than usual, but he has succeeded in getting full and complete motion, and I am unable to find any difference between the motion of the damaged leg and its fellow.

DISCUSSION.

Dr. Donald Maclean, Detroit, Mich.—We were taught that there was a vast difference between an open fracture, a simple fracture and a compound fracture, and that it made as much difference as there is between night and day whether a fracture was subcutaneous or not. We were also taught that a subcutaneous operation for an abnormal condition was all right, but that an open incision was extremely dangerous. Now, we cut right down and see exactly the condition of the tissues we are dealing with and perform a complete and safe operation. Such is also the case with fractures, which do not carry with them the terrible feeling that they did a few years ago. By our aseptic precautions we can avoid the dangers of compound fractures. In the next place these same facts encourage and justify us in converting, at our discretion, a subcutaneous fracture, dislocation or injury into an open wound where you can see and feel the exact conditions. In this connection the X-ray has been of great advantage. A surgeon who would have proposed a few years ago to cut down and wire the fragments, or to open an elbow-joint or hip-joint which had suffered some obscure injury, would have been considered guilty of malpractice, but in these days of aseptic surgery we do not hesitate to cut down. When we have some obscure elbow-joint or hip-joint injury where there is some obstruction to replacement, if we can not succeed otherwise, we take our knife and cut down and find the exact condition present. The last, but probably the most important, aid in this work is the X-ray and no man would undertake to open an elbow- or hip-joint unless he had first made use of this means of diagnosis. In that way he will either justify his further procedure or obviate it, and if he decides to operate he would have some idea of what he was going to do. These great principles have been well illustrated this morning. Take for example asepsis; we no longer lay down a dividing line between open and subcutaneous operations. We do not have to let a patient go through life a cripple from an improperly treated fracture, as we feel at liberty, either with or without the X-ray, to lay the parts open and to do intelligently what in former times was considered very dangerous. The work done to-day will always stand as proof of surgical advancement.

Dr. J. D. Blake, Baltimore—I was very much interested in Dr. Barton's remarks concerning fractures of the patella and thoroughly agree with him in regard to what he says is absolutely necessary, i. e., thorough asepsis in connection with the opening of the knee-joint. I do not agree with him, however, in the means or methods which he uses in ascertaining the extent of damage done to the tissues around and about the point of fracture. He states that by placing his finger over the surface of the bones he has been able to determine what the fractured surface has been, to a large extent, if not completely covered by intervening fragments of tissue. This is very true and is the reason why we do not get bony union in these cases when not operated on, a fragment of tissue having fallen between the separated fragments; nothing but an open wound and the removal of the fragments of tissue will ever enable us to bring the bones absolutely together. I do not think that any man should use his finger in the wound, notwithstanding the fact that every aseptic precaution may have been taken and the wound made a thoroughly aseptic one. In operating upon these cases I never allow the finger to enter the wound at all. Nothing but absolutely sterilized instruments are permitted to enter the wound; I take up the fragments and cut them off close to the edge of the fractured bone with forceps and scissors. I have operated three times within the last two years without a wire. I do not believe that the patella is different from bone elsewhere. I believe its capacity for union is the same, and if the obstructing material is removed and the bones are brought in a position under the eye and fastened together thoroughly by sterilized ligatures, taking up the connective tissue and periosteum overlying the patella, stitching it together as recommended by some one whose name I cannot recall is all that is necessary. As in cases of fracture of other bones, we bring the bones as near together as possible. With your stitches taking up the tissues above and below the point of fracture, you will be able to bring the bones in thorough apposition, and by removing all fragments of tissue between them you will get good union.

Nor do I agree with the Doctor that it is better to wait eight or ten days before operating. I operate as early as possible after the injury, and by so doing am enabled to more easily get rid of effused fluid in the joint as well as the blood-clots, which are more easily dislodged early than later. I thus avoid the swelling, etc., which the Doctor wishes to get rid of after it has occurred. I accomplish the cleansing by washing out the joint with absolutely sterile water. Adherent clots are removed with dressing forceps; the finger and hand are not allowed to touch the parts under any circumstances.

Dr. M. B. Tinker, Baltimore—I would like to mention aluminum bronze as a possible suture material, not only for the patella but for bone in any portion of the body. This was first used in Germany in 1895, and I believe is now in almost universal use in that country instead of silver wire. The advantage of it is that it is gradually absorbed. I presume you are familiar with the fact that aluminum is dissolved by some of the fluids of the body. The aluminum bronze consists not only of aluminum but a small amount of copper, as aluminum alone has not sufficient strength; with the copper it makes very fine material for such work and does not absorb rapidly. In the case of Dr. Keen in which he used the bronze it could still be seen by the X-ray a year after. The effect of the secretions upon it would be to reduce any sharp edges. The Germans consider it superior to silver wire.

DR. A. J. OCHSNER, Chicago—In discussing Dr. Barton's paper I would state that my experience covers only seven cases, in three of which I secured perfect union. In many of the cases that come late for operation a blood-clot will be found between the portions of bone, and this is one reason why I would prefer a transverse incision rather than a longitudinal one. In suturing the patella I like chromicized catgut, because you never have to remove it. The patella being a sesamoid bone and being in the middle of a tendon, the important injury consists in a transverse tear of a portion of this tendon on each side of the patella. This tear can be sutured by a transverse incision, but it is much more difficult through a longitudinal incision. The operation should be performed with an Esmarch constrictor upon the thigh and this constrictor should be left in place until the patient has been placed in bed with the limb strongly elevated, thus preventing traction upon the patella. I believe that everything can be removed without placing the finger in the joint and I consider this important. Two of my cases were unusually interesting. One of them came in with a fractured right patella. Two years before the same patient had fractured his left patella. He went to work in four weeks after the operation, and in two months his leg was perfectly well, while the left leg is still defective, now five years after original injury. I usually let my patients walk in three weeks. I recall another case in which there was a compound fracture due to the kick of a horse which struck the center of the patella. The patient walked in three weeks and went to work in six weeks. I always prefer to operate at once and have at different times operated on the same day, the second day, or even an hour after the fracture had occurred.

DR. W. J. MEANS, Columbus, Ohio—In a paper read before the Ohio State Medical Assocation in 1899, I reported several cases of fractured patellæ treated by the open method, with uniform success. I regard the open method, when there is considerable divulsion of the fragments, as the proper procedure. I used in my first case silver wire to suture the fragments. In my later operations I have discarded the bone suturing entirely. After thoroughly cleansing the space between the fragments, removing the debris from the capsule, and trimming off the shreds of tissue that are liable to prevent perfect coaptation, I suture the margins of the capsule on the anterior and lateral surfaces with catgut, and close the incision without drainage. A posterior splint to the leg and a figure-of eight bandage complete the operation. While I am not wedded to any particular form of incision, yet I prefer the longitudinal one. Bone sutures are in my judgment unnecessary. Drilling the fragments requires considerable manipulation of the parts, which increases the danger of infection. Permanent sutures, such as silk or silver wire, are liable to cause trouble at some future time. Kangaroo tendon and catgut cut on the sharp corners of the bone, and therefore fail to give the desired effect. The main points in favor of the open method are: 1, perfect apposition; 2, bony union; 3, saving of time; 4, complete restoration of the function.

As to the question of opening joints to reduce dislocations, I believe it is a legitimate and scientific procedure. Four weeks ago I opened a shoulder-joint to reduce a dislocation of the humerus that had occurred three months previously and had resisted the efforts of several good surgeons to correct it. The result is perfect. I believe operative procedure for the correction of irreducible dislocations and for the correction of fractures where the fragments can not be properly adjusted, are legitimate and scientific.

DR. RANDOLPH WINSLOW, Baltimore—I have several times opened the articulation for dislocation of the elbow, and I have found that even when this is done and the parts are thoroughly exposed it is still by no means easy to reduce the dislocation. I am glad to hear that reduction has been more satisfactorily effected by using double lateral incisions than by a single incision. In several cases I found it necessary to divide the triceps tendon.

DR. HART, China—I have been in China for the past seven years and many such cases have come under my notice, several of which I have operated on. As far as fracture of the patella is concerned we see very few such cases, only three or four having come to my attention. I have had to adopt different methods at various times and have operated on some by using the subcutaneous suture, which has been satisfactory, provided the limb was properly supported with a plaster-of-paris splint. I have also used sterilized silk for stitching the fascia and the tendon together, thus bringing the bones in apposition. It is very difficult to keep the patients quiet unless you tie them down in bed. In one case, a fracture of the femur, where it was necessary to keep the man quiet, I told him he would have to stay in bed several weeks, but he got up the next day, and I then chained him in bed. There are a great many joint diseases in China, and I have operated on a considerable number, particularly for necrosis of the head of the femur. Operative procedures give the most satisfactory results in these cases. I see quite a number of old cases of dislocation of from one to four months' standing, but it is very difficult to get the consent of the patients to operation. We always try to reduce the dislocation, and in many cases have been successful, but we have found dorsal dislocation of the femur the most difficult. We must first get the consent of the patient, and besides that we have to keep a book in which they sign their names, agreeing not to hold us responsible.

DR. J. W. MACFARLANE, Pittsburg, Pa.—Dr. Barton's paper is an advocate for wiring these cases, as against the ordinary splint plan, and the Doctor indicated that all cases should be operated on. I grant you at the beginning that the open method is a much better treatment, but still it can not be denied that a small portion could be treated by the splint method. In view of the fact that these papers are spread broadcast, I think the general practitioner should have a chance for his "say." It is possible for a man to get good results without the open method. There is one objection to the paper, namely, the statement that the operation is a difficult one, for I do not think that anybody will agree with him. I take it that when we advocate a plan of treatment we should make it as easy as possible and it does not add to the weight of our views to state that the matter is difficult. So far as asepsis is concerned, of course no one would touch a joint except under strictly antiseptic precautions. As to the linear and transverse operation, I believe it is better done by the transverse.

DR. J. M. BARTON, Philadelphia—I did not intend to say that I introduced the unprotected finger into the joint. The broken surfaces of the patella are turned up before us and they can be seen and felt without going at all deeply into the joint. Personally I always wear rubber gloves in these operations. In my experience sepsis has been limited to one case, and this did not start in the joint, but in the skin. As to removal of the silver wire, I have never had occasion to do this, and if it is carefully buried at the operation I think it is rarely necessary.

Some of the speakers have strongly advised absorbable sutures and sutures which do not penetrate the bone. This I am not prepared at present to accept, for as I understand it, in order to get bony union without long-continued treatment, and with a freely movable joint it is necessary to make passive motion and walk on the limb long before bony union has taken place. The suture, therefore, has to be strong enough not to break and so applied as not to stretch or tear out. I have never had the slightest trouble with the wire suture penetrating the bone, and I see no reason, when we have risked the patient's life and limb by operating on the joint, to take any chances on the suture being ineffective. If time and experience show that some absorbable suture will act thoroughly and efficiently, I am certainly willing to accept it. As to operating on all cases, I stated that if the patient is in good health, other things being equal, I preferred to do so.

Dr. A. D. Bevan, Chicago—I may be criticised for taking the position against the open operation for fracture of the patella, but I have found that by non-operative treatment I have obtained good results. I have one case, a prize-fighter, who has fought several times since his accident, who fell from the gallery of a gymnasium backward, sustaining a fracture of both patellæ. These were handled in a conservative way, bringing the fragments together with adhesive plaster, which was changed every few days, and we have obtained such good union that the man has returned to his old line of work. I have also treated a golf player in the same way, and since the accident he plays as well as ever. I do not agree that the conservative method is unsatisfactory, for I have found it just the opposite. I have two cases of fracture of the patella handled in this conservative way in which the X-ray shows bony union has taken place. On the other hand, I have seen one death from operation and a number of cases of sepsis, and I would state that the ordinary medical man in general practice has no right to open up a simple fracture of the patella which he can approximate by means of adhesive plaster or plaster of paris. A man who has at his disposal all of the facilities for aseptic work has a right to handle his cases by the open method, but the vast majority of cases will fall into the hands of men who have not such facilities. The men who handle these cases should be taught to do so by the non-operative method and such a teaching would be of great service to both the patient and the surgeon.

GROWTHS IN THE FRONTAL SINUS.

TWO CASES; OPERATION; RECOVERY.*

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COLUMBUS, OHIO.

Tumors in the frontal sinuses are not elaborately discussed by modern text-books on surgery. The diagnosis of this pathologic condition can not be well established until marked deformity is present. Kikuze published in 1888, a list of 54 cases in which tumors had been removed from the frontal sinuses, and of this number 18 died of sepsis, but the writer has not had access to any tabulated lists showing results of operations done in the last twelve years. In the face of a mortality of 33 per cent., it is obviously important that operations should be performed early in the history of the disease—as soon as the diagnosis can be made. These neoplasms may be either benign or malignant, and the osteomata are the growths most commonly met with in this location. They may attain to considerable size and sometimes undergo necrosis, and on account of the proximity of such a neoplasm to the brain and its meninges, there is danger of meningitis or cerebral abscess from its presence. Again, an empyema of the frontal sinus may complicate such a growth. When the operation is done, it is obviously important that rigid asepsis should be employed. Prominent among the pressure-effects produced by these tumors is the absorption of the cranial wall, or of the roof of the orbit, or of the wall of the sinus itself, or of the membranes of the brain contiguous to it. No classical incisions have been suggested for their attempted extirpation. If the tumor be large, it may be difficult, or impossible, to avoid a somewhat unsightly scar.

Case 1.—J. B. C., aged 36, a resident of Carpenter, Ohio, a farm laborer by occupation, was admitted to Mt. Carmel Hospital, May 21, 1899. His father died of cancer of the kidney, though the other members of the family were free from any constitutional taint. His general health had always been good, with the exception of an attack of typhoid fever two years prior to his admission. At the age of 14 he was struck on the forehead with a stick, causing a swelling at the root of the nose. This was incised, discharged a small quantity of pus and closed within a fortnight. The swelling never entirely disappeared, but continued to increase in size up to the time of his admission. The patient had of late suffered from headache and vertigo, and the forehead was the seat of an enlargement, extending from the line of the brows for some distance above the frontal eminences. Laterally it reached nearly to the angular processes. It was somewhat irregular in contour and more prominent to the left of the median line. Transversely it measured 3½ inches, while the greatest vertical dimension was 2¼ inches. It was in portions hard to the touch, while in many other places it yielded a kind of crackling sensation. He had no febrile movement, there had at no time been any purulent or bloody discharge from the nose or from either ear, and his mind and vision were not apparently disturbed. The forehead was bulged out, so that the deformity was readily discernible and very unsightly. A diagnosis of osteoma or osteosarcoma of the frontal sinus was made and operation was advised.

After thorough preparation of the head and face, he was operated on at Hawkes' Hospital, under ether narcosis. A crescentic incision was made, connecting the two external angular processes and reaching at its center a point about three inches above the root of the nose. The flap having been rapidly turned downward, Hartley's chisel was used for the purpose of dividing the bone beneath the incision. The frontal bone had been to a certain extent absorbed and thinned by the growth in its progress. The chisel was used below transversely in the hope that the neoplasm might be shelled out, but the mass was too firmly fixed to make this undertaking feasible. An ordinary amputating saw was driven transversely into the most prominent part of the tumor, to the depth of one-half inch, and at a distance of 1½ inches from the superciliary ridges. It was hard as ivory. Strong chisels were driven into the section made by the saw, and by the employment of considerable force the tumor was removed piecemeal. Rongeur forceps and large pliers were also used in the operation. The meninges were in some places exposed, while in other parts they had been absorbed, and the growth in its development seemed to have encroached backward, upward, forward and laterally as well. No formidable hemorrhage was encountered and, after having cleansed the cavity, it was packed with iodoform gauze and, provision for drainage having been made, the wound closed with stiches. The next day the patient had a normal temperature, no pain, and the dressings were thoroughly saturated with blood-stained serum. His convalescence was uneventful and he left the hospital in four weeks, with the wound healed. The growth was found to be osteoma, and weighed 4½ ounces. A recent letter, evidently dictated by his physician, states that his general health is very good and that there is no sign of recurrence. There is some depression in the forehead and at times he is annoyed with double vision. He is able, however, to go about his ordinary avocations without being at any time incapacitated.

Case 2.—C. S., aged 27, a resident of Wellston, Ohio, was sent to Hawkes' Hospital by Dr. J. B. Spencer, of that place, on May 18, 1900. A laborer by occupation, he had fair general health until the past few months. He first noticed a protrusion of the forehead three years ago, and it increased steadily in size until his admission to the hospital. There was no history of syphilis or tuberculosis. Some months prior to admission he consulted the writer, and then had headache slight impairment of vision and marked double exophthalmos. He was put on antisyphilitic treatment for tentative and diagnostic purposes for a number of months, but without improvement. At the time of his admission he had a bulging swelling directly above the nasal process of the frontal bone, the size of a walnut, and flattened slightly from one side to the other. He also had double exophthalmos, especially of the left eye, with ugly divergence. Dr. C. F. Clark found double optic neuritis, inability to read and threatened blindness. The ophthalmoscope showed, particularly in the left retina, a striated condition suggestive of edema, apparently the result of intracranial pressure on the posterior part of the eyeball, while on the nasal side a patch of choroiditis had developed from it. He was becoming dull and apathetic and at times had slight fever. There was no history of nasal or aural disease, and the sense of smell was unimpaired.

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The diagnosis of tumor of the frontal sinus, probably osteoma, was made, and operation performed. An incision was made on the forehead, which exposed, after reflection of a small flap, the region of the expanded frontal sinus. Dr. William Todd, the dentist, rendered valuable assistance with a surgical engine. A hole was bored into the sinus and the anterior wall found to have been largely absorbed. The sinus was filled with what proved to be an osteoma, rather soft in consistency, and a structure was also found resembling a fibrous polyp. This mass was located exactly in the median line in the sinus in such a position as to interfere with proper drainage into the infundibula. As a result there was retention of mucus and pus, and both sinuses were filled with mucous polyps of varying sizes. The roofs of both orbits were partially destroyed, and the secretion, together with the polyps, mucus and pus, were in contact with the dura mater, which was carried so far backward that the finger could reach the petrous portion of the temporal bone. After the removal of the bony growth and the polypi, the cavity was thoroughly washed out with salt solution, which was used freely during the operation. The bone required rather extensive removal in order to get at the sinus, and the dental engine was very useful in dividing the bone. The wound was carefully packed with iodoform gauze, some of which was lodged behind the left eye, and was partly stitched, leaving ample provision for drainage in the median line of the forehead, in the location of the frontal sinuses. At this writing he has had a normal temperature for three weeks. Ten days ago he was anesthetized, some small sequestra were removed, and the edges of the wound brought together except at the lower median angle. The cavity is about closed. It is lined with granulations. His general condition is much improved. The opening in the forehead leads downward a distance of two inches to the space behind the left eye and an equal distance toward the apex of the right bony orbit. It would have facilitated drainage if a counter-opening had been made through the squamous portion of the temporal bone on the left side at a point opposite the cavity behind the eye.

Improvement has been very marked, and the indications are that the patient will get radical relief, although the sinus will no doubt persist for a time, until the cavity is healed. H mind is perfectly clear and he is free from pain, has no vertigo, has gained in flesh and is able to read ordinary print without fatigue. The exophthalmos has disappeared, and examination by Dr. Clark shows that vision is up to the normal, while the ophthalmoscope reveals a condition of things in which the choked disc has disappeared and the retinæ are about normal.

June 29, 1900: Patient was out of hospital for first time. Dr. Hamilton had operated April 20 and removed large growth—polypi—and pus. Patient has made a good recovery. Vision, R., 5/9, with + .5 S. = 5/75; L., 5/9, with + .5 S. ⌣ .5 C. ax. 90° = 5/6.

Diplopia occurs only with cover or with colored-glass test, which is overcome at once. Hypertropia is 0° in right, 4° in left; esophoria, 1°, abduction, 5°; adduction, 14 to 20 degrees.

Ophthalmoscope shows right disc normal; some fine horizontal striations of retina in macular region persist; vessels normal. Left disc appears normal; possibly slight paleness; some disturbance of epithelium about the disc, but not excessive; in the large area of choroiditis there has been increase in pigmentation; coarse horizontal striations still persist. No scotoma discovered in temporal fields, therefore retina is not destroyed by choroiditis.

The first case was one of large osteoma, as has been indicated, while the second was one in which an osteoma of softer consistency of the frontal sinus was complicated by the existence of polypoid growths and a rather extensive empyema.

DISCUSSION.

Dr. R. H. M. Dawbarn, New York City—An important point in these cases is the early diagnosis of the tumors, particularly when malignant and occurring in the frontal sinus of the antrum. I will mention one case to illustrate the point, which I saw five years ago. The patient had had persistent face-ache for a long time, and a dentist had extracted an upper bicuspid, the fang of which was quite soft, instead of being the normal hardness of the crusta petrosa. He came to me some weeks later, but had absolutely no evidence of a tumor so far as any bulging was concerned. By the electric light I could make out that the antrum was filled with something, and upon taking a round sewing-needle I was able to demonstrate that whereas the bone on the other side was of the usual extreme density, on the diseased side it was soft so that I could push a needle through it and into a solid growth in the antrum. Softening is quite frequent in these cases and greatly aids the diagnosis. By this method of pushing the needle into the tumor and its meeting with diminished resistance I have been able to make a diagnosis much earlier than I otherwise could have done. In an operation upon the frontal sinus we are able to do much better work and accomplish drainage more in accord with surgical principles by the natural passage by curving a probe in a peculiar way, which I discovered by experiment, and inserting a drainage-tube by a thread tied to the probe through the natural opening, instead of crushing through the bone from the frontal sinus into the nose for passage of a drainage-tube—which is the more usual way. Nine years ago I did a number of experiments on the cadaver, trying to effect drainage by the natural passages, first through the infundibula and then through the nostril, and I found by curving the probe in a peculiar way it could be done very readily. The drainage-tube is drawn through the nostril up into the frontal sinus. Dr. G. R. Fowler, in his article in Wood's "Reference Handbook" upon Frontal Sinus Disease, has an illustration showing how to curve the probe for this purpose.

TREATMENT OF THE GASTROINTESTINAL SYMPTOMS IN TYPHOID FEVER.*

J. M. ANDERS, M.D., LL.D.

PHILADELPHIA.

While we have no direct specific remedy for typhoid fever, and no knowledge of any drug that destroys the bacillus of this disease, the proper management of the gastrointestinal system, and especially during the early period, will prove of decided advantage. Among the principal objects met in this way is the preservation of the strength and vitality of the patient, thus probably inhibiting the virulence of the bacilli and their toxins, as well as that of some of the intestinal organisms which are otherwise harmless. Moreover, we can diminish somewhat the amount of intestinal toxins, and hence to an equal extent their absorption into the general system. The frequency of certain symptoms and complications—meteorism, vomiting, diarrhea—which are so very prone to manifest themselves if the prima via be neglected, may also be lessened.

Before discussing the usefulness of drugs in this condition, which I grant are subsidiary in importance to correct feeding, baths, careful nursing, and the judicious use of stimulants, I should like to call attention to the prophylactic influence of the first two, namely, feeding and baths. In the care and management of the digestive tract, correct feeding stands paramount. For the typhoid patient liquid nourishment—milk, broths, meat-juices, egg-white and the like—is the safest, as it is the best form of alimentation, as a rule. The liquid articles mentioned can be alternated with each other, although milk, when well borne and not too vehemently objected to, should be given throughout the entire course of the disease. Let me lead your attention to the importance of administering the same at stated intervals—every two or three hours—and in definite quantities—6 to 8 ounces at each feeding. As to quantity, however, this should be regulated with reference to the capacity of the gastrointestinal tract. For example, if meteorism or nausea intervene, or the stools contain curds or oil globules, or a marked increase in their frequency occurs, instead of having recourse at once to drugs, we can benefit the patient's condition much more by making a thorough investigation of the diet, particularly as to quantity and character, as well as of the condition of the dejecta. Peptonizing the milk if nausea occurs or it is not well digested, as shown on macroscopic or microscopic examination of the stools, and discontinuing beef and mutton broths if the bowel movements be too frequent, may render medicines entirely unnecessary. We may also diminish the quantity of all forms of alimentation for twenty-four or forty-eight hours, with marked benefit in some cases.

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The Brand method of treatment has a favorable influence on the gastrointestinal tract, by reason of its action in reducing temperature, in lessening nervous manifestations, and imparting tone and vigor to the heart and the muscular system. The digestive functions are invigorated, the glands secrete their respective juices and the tongue becomes moist, sometimes clean, and the appetite improves. While the external application of water is productive of these happy results, the internal administration also has decided advantages for the sufferer.

Dr. Hector Maillart,[1] of Geneva, as the result of his study of the subject, states: "I feel convinced that the treatment of typhoid fever with copious drinks may be recognized as a definite method. In order that the treatment may be efficacious the patient should drink at least 5 to 6 quarts of water daily during the whole febrile period. There is no contraindication to this treatment; feebleness of the heart, so far from contraindicating the drinks, may become a special indication for them. The results are a progressive lowering of the fever, disappearance of the dryness of the tongue and mouth and pronounced sedation of all the alarming nervous, circulatory and renal phenomena. These results are due to the oxidation of toxins and refuse material, which are rendered soluble and eliminated. The oxidation is shown by the formation of great quantities of urea, and the elimination takes place by the skin and kidneys, in the form of profuse sweating and abundant diuresis. This diuresis re-establishes the integrity of the renal filter and that results in the rapid disapearance of albuminuria."

This method of treatment, however, does not have a controlling influence on the general course and duration of the disease. The quantity of water can be reduced to 2 or 3 quarts per diem, and administered, as Gilman Thompson properly advises, between the hours of feeding, so that the gastric juices will not be too much diluted. Again, in those cases of typhoid associated with a tendency to constipation, this form of treatment is found to be efficacious, producing, as I have repeatedly observed, free evacuations.

As the function of the stomach is much impaired, resulting in deficient secretion and diminished motility, meteorism is often encountered, due to decomposable material, an appropriate diet notwithstanding. To supplement the defective gastric secretion, I would advise the use of HCl in small doses after each feeding; this replaces the missing normal acid and acts as an antiseptic, thus preventing the multiplication of microorganisms.

To address antiseptic remedies to the bacillus of Eberth or its toxins, or to the intestinal lesions, would, I believe, be hopelessly futile; and the claim that clinicians have aborted the disease with these remedies lacks confirmation. Intestinal antiseptics, however, have a sphere of usefulness, exerting as they do an inhibitory effect upon the fermentative processes, thereby counteracting the offensive odor of the stools and arresting the growth and development of ordinary intestinal bacteria. Some members of the antiseptic class of remedies, being slightly astringent, also lessen the diarrhea.

It has been my habit, especially in robust individuals, to employ calomel for the first few days of the fever. Its action as a hepatic stimulant and disinfectant of the bowel is worthy of consideration. Calomel removes the decomposable material retained in the gut, and it "places the bowel in a favorable condition for the subsequent maintenance of antiseptics."—R. H. Quill.

For the constipation sometimes present throughout the entire course of the disease, I have found an enema of soapsuds, given every second day, to be followed by the speediest and best results; in late protracted cases accompanied with an irregular intermittent fever, I have seen good results follow the administration of divided doses of saline laxatives. Again, it sometimes happens that a diarrheal condition occurs during the early period of convalescence, due to some irregularity of diet or overabundant feeding, or to a bacillary—otherwise harmless—development, and under these circumstances a mild laxative is sometimes followed by prompt amelioration of the symptoms. In this connection I wish to protest against the routine use of the so-called Woodbridge treatment. I have never seen the gratifying results claimed by its author and his disciples. Moreover, there is no special medicinal treatment for typhoid fever, but there is for the individual case.

Of the group of intestinal antiseptics, salol, benzonaphthol, thymol, carbolic acid, etc., I commonly employ salol, the dose being 3 grains every three hours, or larger quantities, even if the symptoms are above the average severity. It is a compound of salicylic and carbolic acids, insoluble in the normal juices of the stomach, but the pancreatic secretion decomposes it into its constituent elements. Its action is that of an antiseptic; meteorism is diminished and the stools become less offensive, as I have often had occasion to observe. The other members of this group of antiseptic agents may be credited with the same action, but my personal experience with their use has been quite limited.

For the marked distension of the bowel, especially noted when the colon is the seat of the principal lesions and diarrhea is a prominent feature, turpentine is probably our best remedy; it is an efficient antiseptic and a stimulant to the circulation and glandular system. When the healing process in Peyer's patches is slow and sluggish, turpentine, by virtue of its stimulating action, hastens the repair of the typhoid ulcers. For the meteorism white turpentine or the oil may be administered internally; if the stomach becomes intolerant, then enemas of the oil combined with milk of asafetida are very efficacious. As turpentine is eliminated from the system through the lungs and kidneys, and on account of the overworked condition of the last-named organ, the drug should be used with great caution or discontinued on evidence of albumin in the urine. Dr. Pfromm informs me that in a recent case that he saw with a brother practitioner, the patient, being in the last half of the second week of typhoid fever, suddenly showed uremic manifestations while taking turpentine; the urine was scanty and contained both albumin and casts; some twitching of muscles was noticed. On discontinuing the turpentine, the urine increased in amount, albumin and casts disappeared in three or four days and the patient made a good recovery.

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[1] Foster's Therapeutics.

The colon or lower bowel is sometimes the seat of extensive ulceration; this is productive of marked tympanites, and at times an exhausting diarrhea supervenes, or involuntary discharges may occur. In these instances, intestinal irrigation if judiciously employed tends to sweep from the bowel decomposable material and irritating micro-organisms. I sometimes combine with the water an antiseptic, as salicylic acid .5 to 1 per cent., or bichlorid of mercury 1 to 6000, used thrice daily, or every four hours, according to the urgency of the symptoms. If a decided catarrhal condition exists silver nitrate .25 to 1 per cent. may be advantageously employed.

The introduction of cold water into the rectum may also be practiced with happy results in suitable cases. It has other advantages than those enumerated above; it increases the tonicity of the sphincters and rectal muscles; by a reflex action on the nerves of the bladder, it causes this viscus to contract and empty itself, and, by a like stimulation of the sympathetic plexus, influences diuresis. Its antipyretic action is also evidenced by a reduction in temperature. Time and space forbid my entering upon a discussion of the treatment of the various complications presented by the gastrointestinal tract in this disease.

DISCUSSION.

Dr. H. B. Favill, Chicago—The question of the real value of different methods of treatment of typhoid fever is a very embarrassing one, because it takes such a vast amount of clinical data before we can arrive at conclusions which are really valuable. One point of importance is the varying relative gravity, or severity, of the clinical course in typhoid fever. This will not only lead to differences in results, but also leads to false conclusions as to the therapeutic observations. Referring directly to his own experience, he had observed a very great difference between the typhoid fever of 1898, and the same disease of preceding years. Is it that the type of typhoid fever is different? It is true that our therapeutic methods have improved, but he was also of the opinion that the type of typhoid fever has been decidedly mitigated, within the last eight or ten years. He was quite of the essayist's opinion that the therapeutic methods, of this country particularly, record a distinct advance in the treatment of typhoid fever, and he referred particularly to the use of the modified Brand method, which he uses in his own practice. The modern methods of treatment consist in gastro-intestinal disinfection and the modified Brand bath. He was unable to decide whether the amelioration is due to the improvement in gastro-intestinal hygiene or to the introduction of the Brand bath, but he was led to believe that it is the bath, rather than the antiseptic treatment. In his hospital practice he uses guaiacol instead of salol, as he found it less irritating. He could see no difference between the clinical effects of the two agents. He had found that it was most efficient if given when the stomach was comparatively empty, or not engaged in digestion. He approved of colonic flushing and had found that patients retained the normal salt solution when they could not retain the simple water injections.

Dr. T. B. Greenley, Meadow Lawn, Ky.—When he began practice in 1845 and up to 1875 he had never seen a case of autumn typhoid; it was always a winter or spring disease. Lately, he had begun to meet with cases of autumn typhoid, and recalled seeing six cases in one house. It was in the fall of 1876, that he had made a report of seventeen cases to the State Medical Association, in which he noted several points of difference between the disease and what he had seen previously. All of the seventeen cases recovered. In these cases he had not seen the preliminary nervous state lasting about a week, and the marked delirium, that he had been accustomed to see in former years. There was also less diarrhea. Also the pulse is frequently slower than in the winter and spring disease. He had never lost a case where the bowels were constipated throughout the disease. He also noticed a less amount of eruption than formerly. He therefore thought that the type had changed.

Dr. Thomas F. Reilly, New York City—In cases where constipation is marked he had found much benefit from small doses of strychnia frequently repeated. He inquired of the essayist if he had observed any ill effect upon the kidneys from salol, and secondly, whether he had noticed any lessening of the number of relapses under that treatment.

Dr. Warren G. Hill, Milwaukee—The important subject of feeding typhoid patients should be more carefully considered. In outlining the medical treatment we usually indicate what shall be given and how often, but in directions for feeding we may indicate what is to be given, and perhaps how often, but the quantity is less clearly defined. He had seen a most careful physician overfeed a patient with a most restricted diet, the patient being fed every two hours, and he got a large quantity at each time. His own opinion was that two hours was a little too short an interval; he thought that babies, even, often do better with an interval between feedings of three or four hours. Perhaps it would be better in typhoid fever to lengthen the interval and give less food. In fact, he was so careful upon this point that his patients were in the habit of saying to him that his treatment of typhoid fever was solitary confinement and starvation. He had kept patients for a week with very little food by the stomach; he used inunctions of cod-liver oil, allowing only a spoonful or two of koumyss by the mouth. In fact, this is his ordinary routine treatment when there is much disturbance in the alimentary tract. The advantage of hydrotherapy in his mind is that the patients take up a large quantity of water by absorption into the system; at the same time they have the stimulating effect of the cold, provided that there is sufficient vitality to produce stimulation, otherwise there would be depression. But in the latter group of cases we can resort to daily colonic flushing, in addition to bathing the surface with the sponge. The colonic irrigation must be conducted very carefully, because we all know from post-mortem examinations that the colon is often so distended that the muscular coat is almost entirely absent.

Dr. Frank Woodbury, New York City—Sterilization of the food and drink is an important part of the treatment, as well as the administration, in frequently repeated small doses, of intestinal antiseptics in order to prevent reinfection. Typhoid being largely a water-borne disease, it is important that the water used for drinking by the patient, or cooking for him, should be filtered and boiled before using, and that no ice should be given to him unless known to be from a pure source.

Dr. W. W. Tompkins, Charleston—In 1882 a company built a railroad in West Virginia and had 500 men employed, who lived in a camp. After living in one place until the camp became infected they would move off to a new place. Typhoid broke out in camp and, acting upon the advice of an old practitioner, he bathed all the patients. He extemporized a tub out of an old canoe. There were fifteen cases in the camp at this time. Every time the temperature went up to 102 F. they were soused in this bath; it did not matter whether they had pneumonia or other complication, or none at all, they all got the baths. In three months he treated 27 cases and all got well. It might be considered harsh treatment now, but the facilities were few and the only other treatment they got was whisky. Where cases had diarrhea or constipation, they were treated just the same. In many of his cases constipation appears early in the disease. His plan was to give small doses of castor-oil in milk and clear out the intestines so as to avoid the danger of ulceration, from irritation of contents of the tube. If the fecal masses are in the lower part of the colon we can reach them by flushing. This subject has been so frequently discussed at the state meetings and by the public press that it is well known and our patients generally know what to expect and what ought to be done in treating a case of typhoid fever. As regards the diet, there can be no question that milk is the best as a rule, but in some cases it does not agree with the patient and something else must be substituted. In some cases albumin water answers the purpose, in others meat juice. It has been suggested that small doses of calomel are useful during the first week, but his experience had been that the physician is not usually called in until as late as the second week. He inquired of the essayist if he would give calomel in such cases.

DR. J. M. ANDERS, in closing, referred to the statement made that there had been a change of type in the disease during the last decade or two, and said that he was of the same opinion; that the disease had become more mild in type. And yet we still see cases of severe type, and these are taken into consideration in the discussion in his paper. One speaker had expressed himself as being unable to decide whether the improvement was due to hydrotherapy in conjunction with diet and other remedies in modern treatment. His own opinion was that it was due chiefly to hydrotherapy. In cases in which this can not be carried out, the other measures do have special usefulness, and especially a careful dietary. The question had been asked if salol produces any ill effects? He could say that he had never seen a case in which the urine became smoky, although in a few cases it had assumed a pink hue, which generally passed away on diminishing the dose. He had never seen it do any harm. He had not noticed any beneficial effects from salol upon the tendency to relapse. He did not believe that it obviates a tendency to relapse to any appreciable extent. He had not found it to reduce the tendency to other complications, but reliable statistics are wanting on this point. With regard to feeding the patient, he thought it best to be as liberal as possible, however, without at any time exceeding the digestive capacity of the patient, as shown by an examination of the stools. If the stools show undigested material he reduces the food or lengthens the interval. He thought that the stools are not examined sufficiently often by the profession. In some cases it is necessary to examine them microscopically as well as macroscopically. They often show curds and scraps of food still undigested. In this case we may substitute some other form of nourishment. The good effects of the bath are most evident upon the nerve-centers, and the symptoms which proceed from the disturbed organic functions. The reduction of temperature is important, but it is secondary to the effect upon the nervous system of the cold bath. Where hemorrhage from the ulcerated patches occurs the only indication is absolute rest, both local and general. He felt certain, both from his personal experience and from published statistics, that the cold bath has increased the tendency to hemorrhage from the bowels, caused by the necessary disturbance of the patient. The question having been asked if calomel should be given to patients coming under observation late, he would explain that he did not mean that calomel was inadmissible in the later stage, but that the most good was obtained from its use in the first week. At the end of the second week he would not consider it contraindicated unless the patient were very weak, in which case he would prefer to use something less depressing in its effects.

THE INFLUENCE OF OVERCROWDING ON THE PREVALENCE OF TUBERCULOSIS.—That tuberculosis is more prevalent and more destructive where there is overcrowding and necessarily unhygienic conditions is shown by the fact that in Glasgow the death-rate per 100,000 of the population from diseases of the lungs, including tuberculosis, was in one-roomed or two-roomed houses, 985; in three-roomed or four-roomed houses, 689, and in five-roomed houses and upward, 328.

THE UNBROKEN SKIN AS AN ABSORBING MEDIUM.*

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In a communication of this kind, consisting, as it largely does, of a review of the works of many observers, much condensation is necessary and many details must be omitted. In reviewing the literature of this subject from the beginning of the century, one is forcibly impressed by the ebb and flow in the popularity of the external application of medicinal agents for their constitutional effects.

Early in the century this method was much in vogue. After 1860, under the inspiration of the experimental physiologists it was relegated to the rear, and for almost a quarter of a century, with the exception of treatises on the use of mercurial inunction in syphilis, there was little written on the subject. Within the past decade the pendulum, largely influenced by the French school of clinicians, has begun to swing to the opposite extreme. The experimental physiologists demonstrated that the lack of homogeneity existing between the various layers of the skin would prevent the entrance of extraneous substances. That theoretic conclusion at first thought seems unanswerable. The crypts of the sebaceous glands, however, are lined with a different kind of epithelium, an epithelium similar in many respects to that of mucous surfaces, and allows the transmission of foreign substances quite as well as if they are brought in contact with it. Another fact demonstrated by later observers, notably Guinard and Linnossier, is that many of the agents that produce therapeutic results by means of cutaneous application are converted into a gaseous state before absorption takes place. The free passage of most gases, particularly oxygen and carbon dioxid, through the skin has been a well-known fact for many years, but it is of quite recent date that the practical application of this principle has obtained. The observers before mentioned clearly proved that when some of the medicinal agents, to be mentioned hereafter, were applied to the skin, without an occlusive dressing, only an infinitesimal amount could be recovered from the urine. If, however, an occlusive dressing of oiled silk and cloth were applied over the substance a very considerable amount could be recovered. This simple principle will account for many of the failures to secure therapeutic results in the past.

Another forward step was taken when Waller and others discovered that many substances, which of themselves could not produce constitutional effects when applied to the skin, might be absorbed if they were dissolved in a volatile substance, such as ether, chloroform or alcohol, which itself is absorbed in a volatile state. The absorption of aqueous solutions of non-volatile bodies by the normal skin is practically impossible. Bartholow's fanciful theory that since the blood is alkaline, acid fluids ought to pass through the skin by a process of osmosis, has not been verified. Non-volatile powders placed on the skin are likewise not absorbed. Guinard made 250 experiments with various substances of this class and never succeeded in finding any trace thereof in the excretions. Whatever absorption takes place in the mineral baths is due to the transmission of the gases evolved and to the presence of exposed mucous surfaces, such as the rectum, vagina, etc.

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The discussion of absorption by cataphoresis, which is closely related to the subject under consideration, would unduly lengthen this paper, and must be deferred. Vanni and Giuicardi believe that substances dissolved in organic liquids are more readily absorbed, and have reported the successful use of morphin and sodium salicylate when dissolved in human saliva. Their results have been disputed by Destot and others. Much had been expected from the inunctions of metals in the colloidal state, but with the exception of silver there has been little encouragement in that direction.

Fats.—A certain proportion of most fats is absorbed. It is taken up almost entirely through the sebaceous glands. Medicinal agents contained in the fatty bases are likewise taken up in varying quantities. To obtain any decided absorption, vigorous and prolonged friction is necessary in order that the substance may come in contact with the glandular epithelium. Fürbinger believes that mercury when used in the form of an inunction, is volatilized in the crypts of the glands, and finds its way into the circulation in the same manner as other gases. The same reasoning might apply to the iodid of potassium. There is, however, sufficient evidence to prove that constitutional effects may be produced by the inunction of non-volatile bodies.

INUNCTION BASES.

Petrolatum.—The value of petrolatum for this purpose is practicaly nil. This is due to its tendency to gum over the mouths of the glands.

Vasogen.—The trade name for an oxygenated vaselin is one of the latest products of Teutonic genius. It has been highly recommended as an inunction base, but its real value has not yet been determined. Many similar preparations that were lauded to the skies have come and gone. Lard and the various animal and vegetable oils have a moderate penetrating power.

Oleic Acid.—Judging from the literature, it might be supposed that oleic acid had lost much of the popularity that it enjoyed some years ago. It is in extensive use, however, and by many is considered to be the most efficient base for this purpose that we possess. Incompetent pharmacy is responsible for many of the failures attendant on its use.

Adeps Lanæ.—To Oscar Liebreich belongs the credit of calling attention to the old wool-fat, or œsypus, and of first demonstrating its exceptional properties as an inunction basis. He showed that wool-fat is a mixture of cholesterin and the fatty acids, which latter, however, must be removed to render the product thoroughly suitable to the skin. He also proved that the fat of the human skin and its sebaceous glands, as well as the vernix caseosa of infants, is essentially identical with wool-fat, being composed of cholesterin and iso-cholesterin. It is derived from the wool-fat of the sheep and has been popularized under the name of lanolin. This is claimed to be a purified adeps lanæ, to which water may be added. As watery solutions of certain medicinal agents do not mix well with other fats, this is of a decided advantage, both for incorporation and absorption.

Aubert, as a result of a most thorough and painstaking investigation of the subject, believes that for simple topical application pure lanolin is inferior to other bases, but where friction is employed it is the best basis that we possess. He advises that it be mixed with castor-oil and applied with friction for from five to ten minutes.

Plasters.—It might be expected that there would be a considerable amount of absorption following the application of plasters on account of the length of time they are in a position. Anders believes that the constitutional effects of belladonna may be obtained in this way in children, and that the effect is more continued than when the drug is administered by mouth. The literature on this branch of the subject is very meager.

CONDITIONS FAVORING ABSORPTION.

Bourget found that, after 40 years of age, absorption diminished. It is much more marked in the young. The skin of women is more permeable than that of men. Those of light complexion have more permeable skin than the dark; fat people, more than those with a dry harsh skin.

It had been noticed for a long time that salivation was much more easily produced when mercurial inunction was made over hairy parts, as the pubis, than in other localities. Aubert, after carefully studying this phenomenon, decided that it was due to the increased number of glands and hair follicles present wherein the mercury was more rapidly absorbed. Thus, he produced the effects of pilocarpin by mixing it with lard and then rubbing it into the hairy regions, whereas the effect obtained when applied in other localities was very slight. Those parts of the body covered by thin skin and abundantly supplied with lymphatics, as the axillary and inguinal regions are, must be superior to the more dense structures. Pavolsky advises that the skin be washed with ether to remove oil, filth, etc., before the application of the medicament. Certainly, the parts should be cleansed with soap and warm water beforehand.

INDIVIDUAL APPLICATIONS OF MEDICINES.

A critical review of the literature has elicited the fact that the following agents may be absorbed through the skin and produce constitutional effects.

Mercury.—The first account of the use of mercurial ointment for inunction appears in 1494. Probably the employment of this and other substances by this method is much older. That mercury will produce its effects when administered in this way is generally conceded. The suggestion that the mercury be applied to the sole of the foot and thus rubbed in by the constant movement of the foot in walking is both ingenious and practical, and might be employed in the case of other agents equally as well. By some authorities mercurial soap is preferred to the soap for inunction. It is said to consume less time in its application. Vogel and Bermartzik say that if 1 per cent. sublimate lanolin ointment be rubbed into the skin of the palm of the hand a metallic taste may often be detected in the mouth within a few minutes.

Iodin.—This, either in the form of the tincture or as the iodid, is certainly absorbed. It has been found in the urine by many observers. The iodid has usually been employed in the form of an ointment. Iodid of potassium is decomposed at the body temperature, and in order to secure the full effect an occlusive dressing is necessary. The ordinary tincture when applied should likewise be covered with an occlusive dressing or, what in a measure amounts to the same thing, petrolatum. Elsberg thinks the ordinary tincture too weak and advises a 20 per cent. solution in ether and alcohol. An interesting feature in the absorption of iodid when applied to the skin, is that the amount eliminated by the kidneys and detectable in the urine does not increase gradually but by sucessive leaps.

Europhen and Iodoform.—Dr. F. Flick asserts that both iodoform and europhen in a solution of cod-liver oil are absorbed by the skin. He has employed these mixtures for nine years and is positive that it produces the constitutional effects of the drugs. Zera J. Lusk has successfully employed an iodoform poultice in seven cases of tuberculous peritonitis. Linnosier has found that considerable amounts of the iodoform may be recovered from the urine following such applications.

Salicylic Acid.—The absorption of salicylic acid is fairly rapid. This may be accounted for by reason of its keratolytic action, and because it is volatile at the body temperature. Reed found that if it be dissolved in alcohol and chloroform, and covered by an impermeable dressing he could detect it in the urine within twenty minutes. Sigalas and Combermalle go even further and assert that when it is rubbed into the skin and covered by a suitable dressing it can be detected in the urine in five minutes. According to Cullen, these authors have succeeded in effecting the absorption of sodium salicylate in the same manner. As might be expected, methyl salicylate, occurring alone or in combination, as in the oil of gaultheria or oil of birch, is readily taken up. Vidal has demonstrated that for this purpose the artificial oil of gaultheria is preferable to the natural oil, in that it contains more of the salicylate and less irritant substances and it does not blister. The ordinary synthetic oil of the shops answers quite as well as the preparations so extensively advertised. This method, either alone or in combination with internal medication, is employed in the treatment of acute articular rheumatism in most of the hospitals of Paris and New York, and gives great satisfaction. I have employed it in the last twelve cases of articular rheumatism and can testify to its efficacy. From one to two teaspoonfuls of the artificial oil are poured on a piece of flannel. Each of the affected joints is encircled by such a dressing and covered with oiled silk, and over this a thick flannel bandage is applied. This procedure is repeated from two to four times daily. Others employ it in ointment form. Lately this plan of treatment has been recommended in the management of acute chorea by Professor Bozzolo, of Turin. It has been suggested that the absence of salicylism, following such application, is due to the slowness of absorption, thus not permitting any great accumulation of the agent in the blood at any one time.

Silver.—The inunction of metallic silver, in the form of unguentum Credé has been successfully employed in many forms of general sepsis. Gustav Shriner reports a number of cases of cerebrospinal meningitis successfully treated by this agent. Credé states that two-thirds of the ointment penetrates the skin, and he has proved this by microscopic sections. Forty-five grains are sufficient in mild cases, and friction should be employed from twenty to thirty minutes. Roswell Park, Marx, Jones, Osborne and others have had excellent results from its use. The literature is quite extensive.

Quinin.—Inglis, Moncorvo and others assert positively that quinin produces its effects when applied locally in the form of an ointment. This method is especially useful in children. Lanolin or oleic acid are the bases usually employed. This means of administering quinin is very popular in and about New Orleans. From personal experience I believe it to be efficacious.

Phenacetin.—A few writers have employed phenacetin in the form of ointment with seeming good results.

Turpentin.—If confined, turpentin certainly does produce its good effects, and this is sometimes painfully evident if the kidneys are diseased.

Guaiacol.—Guaiacol has been used locally with undoubted success in the treatment of the pyrexia of typhoid fever, and tuberculosis. It must be volatilized, and therefore an impermeable dressing is essential.

Creosote.—Fitzgerald, of the English medical service in India, reports twenty-six cases in which creosote in olive-oil was absorbed and lowered the temperature in malarial fever. Gilbert employed it for this purpose in the pyrexia of phthisis with seeming success.

Croton-oil.—Croton-oil, if rubbed on the skin in sufficient quantity, will produce its constitutional effects. A large part of this absorption is due, however, to its preliminary destructive effect on the epidermis.

Ichthyol.—Inasmuch as very little is known of the constitutional effects of ichthyol, we can not say positively that it is absorbed. Lately it has been employed for its constitutional effects in smallpox and measles. It is said to have rapidly reduced the temperature to normal.

Pilocarpin.—This causes a profuse sweating in the parts where it is applied and effects the general condition but slightly. N. S. Davis, Jr., of Chicago, is satisfied that this method of producing diaphoresis is of distinct value in uremia. In a case of my own there was an undoubted increase in the amount of perspiration at first, but it did not continue. The case finally recovered. The usual strength employed was 5 cg. of pilocarpin in adeps lanæ. Effects are not to be expected until three hours have elapsed.

Digitalis.—This is usually employed in the form of a poultice made of the leaves. How it can act unless there be a volatile principle present is not known, but certain it is that many competent observers believe that it produces the effects of the drug on the kidney when administered in this manner.

Belladonna.—There have been many cases of belladonna poisoning reported where large amounts of this agent were employed in this manner. Certainly, the effects of the drug may be obtained by inunction. An ointment of the extract is the preparation most employed. The experiments of Aubert, however, demonstrated that the action of the atropin is largely exerted on the local glands that are covered by the inunction. After the application of an onion or garlic poultice, suitably covered, the odor can be detected in the breath. This volatile principle occasionally appears to exert a favorable influence in the bronchitis of children.

Carbolic Acid.—The effects of carbolic acid are sometimes apparent when large quantities are used as a dressing on the unbroken skin, especially if there be an occlusive dressing applied. This must be due to the transmission of the gas that is evolved and might be avoided by the use of a light permeable dressing.

A large percentage of the practitioners of medicine in this country, I believe are convinced that inunctions of cod-liver oil have some specific value in certain so-called scrofulous conditions, although it would be difficult to prove this in a scientific manner. Drs. Randolph, and A. E. Russel, of Philadelphia, say that they have seen the oil in the feces when rubbed into the skin.

DOSAGE.

It is customary to give the dosage as two or three times that of the same drug when administered by mouth. We can safely quadruple the dosage in most cases, as the absorption is so slow that accumulation of the medicine in the system in sufficient quantity to be dangerous is hardly possible in that strength.

A medicinal agent to be absorbed by the unbroken skin, must either become volatile during its application, or be incorporated in a fatty base and applied with friction. Occlusion is an absolute requirement in the case of volatile substances. Most of the absorption occurs in the crypts of the sebaceous glands. The effect is much slower, about one-fourth as intense, and longer continued than when the same agent is administered by mouth. A large number of medicinal agents, which when given by mouth are intolerable to many patients, may be administered in this way with scarcely any unpleasant effects.

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IDIOSYNCRASY AS TO MERCURY.

A CASE OF ERYTHEMA MERCURIALE.*

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In the history of many a great man, we are told that he had a peculiar aversion to some special thing, be this a cat or a rooster, or a flower or some perfume. In some cases of reconvalescence, we find special aversion to smoke, even in persons who have been addicted to smoking. Such aversions may be temporary or constant. If the aversion is temporary, we should call it a disposition in consequence of some disturbance in individuality; but if it is constant we may call it a peculiar constitution of individuality, in consequence of which particular agents operate on the individual in a manner different from their ordinary mode of action on persons in general; briefly, we may call it an idiosyncrasy. Even animals are reported to have idiosyncrasies, thus the horse to the camel.

Idiosyncrasies are not uncommon; they occur in regard to various agents. Perhaps the most frequent ones are those in relation to some foods, such as strawberries, and certain fish. Others are connected with drugs and medicine. A well-known German professor of surgery could not stand iodoform; some can not use carbolic acid; others can not take antipyrin without becoming subjected to an eruption of blisters on many parts of the body.

In the literature on the use of mercury, we do not find so frequent an idiosyncrasy to this drug, and extraordinary effects of it, that it would not be worth while to mention such effects when they do occur, especially when such symptoms incline to simulate phenomena of syphilis, erysipelas and scarlet fever.

If we look over the literature of the 19th century, we do not meet many cases of untoward effects of mercury compared with its numberless uses.

One of the first who wrote about the unexpected effects of mercury was G. Alley,[1] of Dublin, who published, in 1804, in a large treatise, several cases of a peculiar eruption arising from mercury. About the same time, McMullen,[2] in Edinburgh, described similar cases; Spens[3] followed, in 1805, with a description of three cases of erythema mercuriale. They considered the correctness of the name—eczema or erythema. Others again called it erysipelas, and as late as 1887 Dr Kreidmann[4] discarded the bacteriological origin of erysipelas in favor of medicinal causes, such as mercury.

In 1811, A. Ramsay,[5] and in 1812 J. Frank[6] and J. Nicholson[7] related cases of mercurial erythema. H. Becker[8] published a treatise, "De Erysepelate Mercuriali," in 1817; B. Kahleis[9] spoke of mercurial rose in 1823; in 1845 Rambant[10] called attention to purpura hemorrhagica caused by mercury; and Larmande[11] wrote about a hydrargyro-atrophic erythema in 1880.

S. Snell[12] described in 1882 a peculiar idiosyncrasy as to mercury; Alexander[13] related in 1884 a case of acute universal mercurial eczema; a year later Descroizilles[14] wrote on mercurial eczema. P. Gaucherand[15] wrote in 1886 about scarlatiniform skin eruptions caused by internal administration of mercury; Blanc[16] and Kreidmann, in the following year, make observations on mercurial scarlatiniform erythema.

In more recent years, Robinson[17] speaks of an individual who was suffering from two attacks of erythema, one after the other; the first after mercurial inunction, and the second after internal use of calomel. G. Lewin[18] exhibits a case of toxic exanthema caused by quicksilver; and Fordyce[19] mentions a case of desquamative exanthema that had been diagnosed as scarlatina.

Mrs. V. G., 50 years of age, mother of seven children, felt intense itching on her hands and arms in the morning of January 20; the following day she had a rash on her throat, flexor sides of her arms, palms of the hands and flexor sides of her legs; the eruption was the most marked in the hollows of her knees, flexor sides of wrist and elbows. An extensive redness was visible all over the skin of these said parts; the rash consisted of dark-red, small elevations over the level of the skin and felt, to the touching hand, like velvet; the elevations corresponded to the hair-follicles; on January 22 the skin was edematous and hardened like in erysipelas; fever did not exist; urine was abundant, and of a water-like color; no albumin; no sugar. Diagnosis was uncertain. I remembered then that patient had told me of eruptions she had had in 1869, 1875 and 1882, and that she had an idiosyncrasy to the use of any kind of ointment. The eruption appeared to me as a symptom of poisoning.

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* Presented to the Section on Materia Medica, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The very intelligent patient gave me the following history of the previous cases of rash: In October, 1869, she consulted a physician for removal of a red spot of the size of a silver dollar, on her neck. The spot was a reminder of a vesicatory put there when as a little child she was believed to suffer from meningitis. The physician prescribed for this spot a grayish ointment. After a single inunction she got an itching rash over her throat, chest, abdomen, flexor sides of arms and legs, with subsequent furunculosis on several parts of the body, particularly the arm-pits. In 1873 the patient married; in October, 1875, after a pregnancy, the hair began to fall out; she used a hair pomade; after its use for the first time she got an eruption on her throat, hands, neck and back of the head. In May, 1882, after another pregnancy, she was suffering from constipation. The same physician who had treated her in 1869 prescribed a powder of grayish color, and greasy, shining appearance. A few hours after taking the first powder a rash all over the body—throat, chest, flexor sides of arms and legs, hands—occurred, followed by furunculosis again. The new attack of eruption seemed to her to resemble the previous ones.

I learned that the patient had taken on the evening of January 19, two pills, and on January 20, three pills, as a laxative, and on closer investigation I found out that the pills were blue-mass pills of 2 grains each; the diagnosis then was easy; it was a case of effects from mercury.

In the previous times, as well as in the new attack, the skin scaled off in large lamellæ, like in scarlet fever, except that the desquamative process was to a thicker extent. The teeth were greatly affected in the attack of 1882, not so in this eruption. Mercurial diarrhea did not occur, there was rather an inclination to constipation.

The urine was examined for the presence of mercury, according to Almen. I used for the purpose a very fine copper wire, such as taken for induction coils of faradic instruments. The examination was positive.

Patient comes from a healthy family; none of her sisters or brothers is known to be subjected to the same idiosyncrasy, except that father and one sister in younger years could not eat strawberries without getting a rash; later on they were not affected any by eating the berries. The children of the patient are not known to suffer from the same disposition, for one or the other has taken the same blue-mass pill or calomel.

The treatment consisted of administration of two tablespoonfuls of castor-oil and magnesium sulphate; of hot baths, diaphoresis, drinking of egg albumin stirred in boiled and cooled water, of large quantities of hot milk and hot water. The itching was first treated with inunction of vaselin and dusting of borated talcum powder, but with not a great success; it stopped promptly on administering potassium iodid, 8 grains in 150 grains of water three times a day; a second examination of urine did not exhibit mercury any longer. A struma that had existed for several years subsided simultaneously with the administration of potassium iodid.

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A NEW OBJECTIVE TEST FOR MASTOIDITIS.

WITH REPORT OF CASE.

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The use of the tuning-fork and the stethoscope to determine the comparative density of the two mastoids furnishes a valuable aid, and so far as I am aware, a new method in the diagnosis of mastoid complications. The test is made by placing a stethoscope with a small bell over the tip of the mastoid, and placing the handle of a vibrating tuning-fork over the antrum. It is found that when the mastoid is filled with pus or graunlations or when it is dense from obliteration of the air-cells the sound waves are transmitted to the ears of the examiner more distinctly than when the stethoscope and tuning-fork are placed in the same relative position over the opposite or normal mastoid. Care must be used, in making the test, not to stretch the skin between the stethoscope and the handle of the tuning-fork, for then the vibrations are heard better than when the skin is not stretched, even though the distance be less.

The lower border of the middle fossa can be very accurately located by the same method. While the bell of the stethoscope is upon the mastoid the vibrating fork is moved downward over the squama and as soon as the upper border of the mastoid is reached the sound becomes much louder. The line indicating the change from cranial cavity to mastoid is usually well defined. When this line is reached a move of an eighth of an inch makes a marked difference in the sound of the fork. The position of the lateral sinus in relation to the mastoid can be determined in the same manner, though with less accuracy.

Since beginning the use of this test I have examined forty cases without mastoid symptoms and have found no perceptible difference in the resonance of the two sides; while in the examination of four cases of undoubted mastoid disease the affected mastoid transmitted the sound waves to the stethoscope with greater force than did the mastoid of the opposite side. One of the mastoid cases was recently operated on and the following description gives the chief points:

Mrs. S., colored, aged 40, gave a history of suppuration of the left ear for fifteen years, with occasional attacks of acute pain in the ear and side of the head. For three weeks before coming to the clinic she had suffered continuously from a dull pain in the ear and mastoid, which sometimes extended over the side of the head and as far forward as the eye. Examination showed that the membrana tensa had disappeared. The ossicles could not be seen. A cholesteatomatous mass occupied the attic and upper portion of the cavity of the middle ear. When portions of this mass were removed the surface beneath was covered with granulations. The temperature during her attendance at the clinic varied from normal to 101 F. Deep pressure over the mastoid caused pain. In testing the comparative resonance of the two mastoids I found that when the bell of the stethoscope was placed on the tip of the mastoid with the handle of the tuning-fork over the antrum the resonance of the left side was much greater than that of the right. The time which I could hear the fork on the affected side was thirty seconds, and on the normal side was sixteen seconds.

A mastoid operation was done December 20. The usual post-auricular incision was made, and the mastoid cortex found to be of ordinary density. The air-cells were small and filled with granulations. Hemorrhage from the mastoid wound was unusually profuse. The cavity was cleared of diseased tissue, the posterior wall of the auditory canal and the outer wall of the attic chiseled away, and the granulations and cholesteatoma carefully removed from the attic. The facial nerve was found exposed just above the oval window, and sponging of the cavity caused twitching of the left eye-lid and side of the face. A slit was made throughout the entire length of the posterior part of the membranous auditory canal; and the mastoid cavity, the middle ear and the auditory canal were lightly packed, through the meatus, with iodoform gauze. The posterior incision was completely closed with sutures.

The only thing of special interest in the case is the condition of the mastoid in relation to the test with the stethoscope and tuning-fork. The fork I have used in these tests is a C 512, so constructed that it should be heard by the normal ear about thirty-five seconds. The stethoscope has a metal bell five-eighths of an inch in diameter.

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OCULAR MANIFESTATIONS OF DIABETES MELLITUS.*

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To the practitioner of general medicine, the eye symptoms of diabetes have only a general interest, save in their diagnostic and prognostic significance. I shall, therefore, in this discussion, avoid a detailed consideration of the ocular findings, from the standpoint of one interested in diseases of the eye, and briefly examine the relation of the more important symptoms to the primary disease. It is unnecessary to caution you against that unwarranted faith in ophthalmoscopic findings which one sometimes finds among the laity. Many patients feel perfectly assured of their physical soundness when told that no evidence of disease can be found in the eye, but I am not so sure that it is unnecessary to warn you against a too broad skepticism. It is true that no systemic disorder writes its name in large type on the background of the eye. Syphilis does not have the sole prerogative of producing iritis, nor diabetes of causing hemorrhagic retinitis, but it is true that in certain general diseases ocular symptoms are found with sufficient frequency, and a clinical picture of sufficient definiteness is often enough obtainable to make us reasonably certain, from the eye symptoms alone, of the underlying disorder.

Further, there is information to be obtained by the ophthalmoscope, of the condition of the circulation, of the changes in the vessel walls, as well as of disease of the nerve, which is in many instances of the very highest importance and which I believe is obtainable in no other way. This is a broad field, one as yet but little cultivated; we have studied the findings discovered in more advanced conditions with much care, but it is the early conditions which we should investigate. When the student with the ophthalmoscope shall work with the student of general medicine and when their tentative findings shall have been shifted by the pathologist; when such results have been patiently collected and digested, I am convinced that the opportunity for inspection of living tissues, which the eye alone affords, will take rank as one of the most important of diagnostic methods.

While ocular lesions may be present in all forms of diabetes, they are more frequently found in the chronic cases without marked general disturbances. It is, possibly, the supposed need of change in glasses which brings the majority of these cases under our observation, for refractive changes are incidental to many of the eye symptoms of diabetes. A few cases are on record in which hypermetropia has developed as a result of diabetes, and in some instances[1] it has varied with the amount of sugar in the urine. This peculiar phenomenon is due, according to Landolt, to a change in the index of refraction of the vitreous.

The development or the increase of a pre-existing myopia is a much more common occurrence. This is frequently associated with changes in the lens, but is also seen when no evidence of cataract is present. These refractive changes are often early symptoms and are important in suggesting the possibility of some serious general disease. Langford[2] formulates the proposition that, "The onset of myopia in patients of 50 years of age or upward without discoverable abnormality in the lenses should always excite suspicion of diabetes;" and it is well on general principles to question any too frequent necessity for change of glass.

Paralyses of the extraocular muscles occur in mild as well as severe cases of diabetes, and may be present in patients unaware of any serious constitutional disorder. These paralyses may be transient and improve and recur with the progress of the general condition. This variability is particularly observed in the lesions occurring early in the disease; the later paralyses are much more permanent. Any of the extraocular muscles may be involved. The cause of these paralytic conditions is believed to be nuclear or peripheral hemorrhages, or peripheral neuritis. Paralysis of accommodation is probably the most frequent of the ocular complications of diabetes. It was first observed by von Graefe, and as in most other instances his opinion has been confirmed by later observers. Paralysis, or more properly paresis, of accommodation, for the paralysis is often incomplete, is in many cases among the very earliest symptoms of diabetes.

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*Read at the Sixteenth Annual Meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn, May 22, 1900.

[1] Landolt: The Refraction and Accommodation of the Eye, p. 417.

[2] Norris and Oliver: System, Vol. iv, p. 667.

An incomplete paralysis is often unrecognized by the patient as such. They only observe increased difficulty in reading, which is relieved by a stronger glass, and belong to the class, to which I have previously referred, who first learn of the diabetic condition when examined for glasses. The relation of diabetes to cataract is a question which has occasioned no little discussion; some authors claim that there is a true diabetic cataract while others contend that lenticular changes are no more common among diabetics than in patients of the same age suffering from some other debilitating disease. Among patients past middle life I am inclined to believe that the influence of diabetes on cataract formation is through the general nutritive disturbances and arterial degeneration by which it is accompanied; but in the young there seems to be some direct causal relation, and the unexplained development of juvenile cataract requires exclusion of diabetes, as a possible cause, by a careful physical examination.

The most interesting, if not the most frequent, ocular symptoms of diabetes are found in the retina. It has long been known that pathologic changes are frequently found in the retina of diabetics, but owing to the similarity of these lesions to those found in other diseases attended with vascular degeneration and particularly to those of renal retinitis, many observers have denied that a true diabetic type of retinal disease could be distinguished. Hirschberg,[3] who has given much careful study to this subject, is convinced that there is a distinctive diabetic retinitis, presenting in most cases either a degenerative or a hemorrhagic type, and he points out the features which distinguish it from the other forms of retinal disease. He admits that his contention is not universally accepted, and explains this fact as largely due to the confusion of other observers, who have not taken into account the frequency with which renal lesions develop in diabetics. When the two diseases coexist we may have a mixed type of retinal disease, or a diabetic retinitis may take on a renal character when the disease of the kidney is developed in the diabetic, or a patient suffering from diabetes and renal disease may not develop a diabetic but an albuminuric retinitis. Again, there are periods in the progress of the case, during which either the sugar or albumin may disappear from the urine of a patient, who, nevertheless, is suffering from both diseases. In such an event the ophthalmoscopic findings would not be sustained by a single urinary examination made at this time. Making due allowance for these facts there is no difficulty in recognizing a diabetic retinitis which can always be confirmed by physical examination. These contentions of Hirschberg seem to be well grounded and I am inclined to accept them. The typical diabetic and renal cases are surely distinct enough, but I have never chanced to see the mixed type. Retinitis is often a late symptom of diabetes and develops after the general symptoms have been long present and are well marked; but this is by no means always the case and the diagnosis of diabetes may be first made when patients are examined for glasses or consult us for some blurring of vision, flickering before the eyes or other ocular symptoms.

Retinal hemorrhages, with or without other retinal changes, are always suggestive of diabetes, particularly the small punctate hemorrhages. They are often associated with conjunctival hemorrhages; they are absorbed and recur. They are sometimes very numerous, but frequently cause little disturbance of vision. Retinal changes are always present in a case of diabetes which has existed for more than ten or twelve years, and are usually considered terminal symptoms of the disease; this is not however entirely unquestioned. I believe, while always an unfavorable symptom, retinal complications do not by any means indicate an immediate termination of the disease. Hirschberg makes a distinction between the degenerative and hemorrhagic forms, and considers the cases with profuse hemorrhages far more serious. In my own experience I have known diabetics with recurrent retinal hemorrhages to live many years in comparative comfort, and I can not view the diabetic lesions with the same alarm as those of renal disease.

There is another ocular symptom which is not uncommon and which has occasioned much discussion. This is the central scotoma.

Diabetics sometimes present a clinical picture which is almost identical with that found in the toxic amblyopias. So similar are the conditions that they have been called tobacco amblyopias in diabetes, and the frequent occurrence of these symptoms was supposed be due to the lessened resistance to the tobacco poison among diabetic subjects. As the symptoms are found in patients who use neither tobacco nor alcohol, and who are suffering from no known toxic influence, we are forced to conclude that the poison must be in some way due to the disease. Recent studies of toxic amblyopias have largely changed our ideas of the pathology of these conditions, and the peripheral neuron, which has of late been upsetting most of the established theories of the pathology of the nervous system, seems to be the offending member in this condition as well. The altered state of the blood and the profound nutritive disturbances seem to furnish us with sufficient explanation of these symptoms, which are probably similar pathologically to the other toxic amblyopias.

There are many other diseases of the eye which are caused or modified by diabetes. Iritis of a severe plastic type is met with and is always dreaded after operation on diabetic subjects.

Keratitis, which is pre-eminently an attendant of faulty nutrition, is a natural consequence of the disease, and when occurring is often a serious condition. Optic-nerve atrophy and amblyopia, without discoverable lesions, are sometimes seen. The latter symptom is probably similar to uremic amblyopia in origin, and is sometimes a forerunner of diabetic coma.

The eye symptoms are on the whole of far more diagnostic than prognostic significance. They are nearly all seen as both early and late symptoms, and are indications rather of the present nutritive condition than of the extent of the irreparable damage to the organs. The most valuable prognostic indications are to be discovered by the ophthalmoscope in the retina, and particularly in the condition of the retinal vessels.

A patient may rally from a profound toxemia, but "he is as old as his arteries."

Remote Prognosis of Serofibrinous Pleurisy.—A French author reports in the current issue of *Arch. de Méd. Navale*, all the cases of serofibrinous pleurisy observed in the navy between 1877 and 1899, a total of 352 cases; 320 patients were discharged cured, and 32 died in the course of the disease. He finds that 131 have since died, and that in 118 of these death was due to tubercular infection. The remainder, 189, are still living. He therefore concludes that in a third of all the cases serofibrinius pleurisy, apparently primary, is in reality of tubercular origin. He found the left side more frequently affected than the right.

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[3] Centralblat f. pr. Augen., 91, p. 51.

SOME REMARKS ON THE PLANTAR REFLEX, WITH ESPECIAL REFERENCE TO THE BABINSKI PHENOMENON.[*]

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(Concluded from page 183.)

Early in this paper I mentioned the fact that in seven nurses on duty in the Arapahoe County Hospital I found the plantar reflex absent in 5; present in both feet in 1, and absent in one foot and present in the other in 1. These results seemed so remarkable that I decided to examine the plantar reflexes of the nurses in St. Luke's and Arapahoe County Hospitals. I found 54 vigorous and strong nurses, both in the hospitals and among graduates doing private nursing outside, who were willing to have their plantar reflexes examined. The results were as follows:

The plantar reflex was absent in 63 per cent., and present and normal in 11, or about 20.3 per cent. It was irregular, such as present in one foot and absent in the other, spreading of toes, flexion or extension of one or more of the small toes and flexion of the great toe and extension of small toe in 9, or 16.7 per cent.

There must be some steadily acting cause in nurses to give rise to the absence of plantar reflex in such a large percentage of healthy individuals. My first theory was that it was because the nurses were on their feet so many hours, but on re-examining the nurses in the early morning whom I had examined after a day's work, I found no changes practically in the plantar reflex. I then examined my own plantar reflex and found it present and normal both night and morning. I was forced to abandon this theory. In looking over my records of 2550 old cases and finding that the plantar reflex disappeared in nearly all cases of extreme exhaustion, especially just before death, in tumor and abscess of the brain and in the profound comatose stage preceding death, I felt that the frequent absence of the plantar reflex in nurses was caused by exhaustion from overwork. I again re-examined my own plantar reflex when I felt extremely exhausted from trying to work a few hours after suffering from an attack of cholera morbus. In this instance I found my plantar reflex absent. Another time, after getting exhausted the reflex was present in one foot, absent in the other.

It would be interesting to examine the plantar reflex in smelter men after a hard day's work. In looking over Drs. Walton and Paul's[4] paper two paragraphs (pp. 310, 311) attracted my attention in this connection. They state:

> In 100 cases, apparently healthy, taken from the gymnasium and other places outside of a hospital, they found the reflex as follows: In 75 per cent. normal plantar reflex, no movement in 10 per cent., and in 15 per cent. flexion on one side and absent reflex on the other.
>
> In 100 patients taken at random from a general hospital, especially selecting those who were not suffering from any disease that would interfere with the plantar reflex the averages were as follows: Flexion of toes—generally the outer—87 per cent., absent reflex in 9 per cent.. flexion on one side and absent movement on the other. 4 per cent.

The hospital patients, who were doing practically nothing, showed a higher number with normal plantar reflex, 87 per cent., than the 100 who resided without the hospital.

In the case of the nurses that I examined, I noted how long each had been in training. I found the plantar reflex absent nearly as frequently in nurses who had been in the school a few weeks or months as in those who had graduated or been in training nearly all of their required time. But here again I found that most of the nurses had come from positions that had required them to be on their feet a great deal.

If observations show that those who have absent plantar reflex for prolonged periods are more subject to certain diseases than those who have a normal reflex, our duty as physicians will be plain.

Examination of 7 healthy children: Extension of all the toes when the children were asleep in 3; unsatisfactory examination in 4, principally on account of the constant movement of the feet while I was trying to examine them. Sometimes the toes would apparently flex on irritating the plantar surface, but on pursuing the examination they would extend and again flex. The ages of the children varied from five days to three months.

Plantar reflex in 40 surgical cases: Normal reflex was present in 30, 75 per cent.; absent in 10, 25 per cent. In 4 of the cases marked flexion of the toe movements were very irregular. In one there was flexion of all the small toes in one foot and absent reflex in the other; in the second there was abduction of the little toe in one foot and quick extension of the great toe in the other; in the third, separation, without flexion or extension, of all the small toes, the great toe remaining quiet; in the fourth, nearly the same phenomenon was observed as took place in the third.

Typhoid, 17 cases: Normal reflex was present in 12, 70.5 per cent.; absent reflex in 3, 17.5 per cent.; flexion in one foot and absent in the other, 2, 12 per cent.

Consumption, 13 cases: Plantar reflex was present in 11, 84.7 per cent.; absent in 2, 15.3 per cent.

In 50 medical cases: Plantar reflex was present in 46, 92 per cent.; absent in 4, 8 per cent.

In the 240 cases just reported, in which there was no evidence of disease of the pyramidal tract, the Babinski phenomenon was not found in one. In one case the right great toe extended but the movement was quick and jerky, all the other toes remaining quiet.

NERVOUS DISEASES—100 CASES.

Dorsal and cervical myelitis: 7 cases with extensor plantar reflex, 100 per cent.

Dorsolumbar myelitis: 7 cases, absent reflex in all, 100 per cent.

Complete destruction of cord: One cervical, 2 dorsal and 4 lumbosacral, 7 cases; plantar reflex was absent in all, 100 per cent.

Idiopathic muscular atrophy, 2 cases: Plantar reflex was absent in both, 100 per cent.

Hemiplegia, 10 cases: Plantar flexion was present in 9 cases 90 per cent; absent in 1, 10 per cent.

Epilepsy. 4 cases (using bromid): Plantar reflex was absent in all, 100 per cent.

Locomotor ataxia, 6 cases: Plantar reflex was present in 2, 33.3 per cent.; absent in 4, 66.7 per cent.

Plantar reflex was absent in 1 case swollen feet from heart disease. 100 per cent.

Swollen feet from kidney disease, 5 cases: Plantar reflex in all was absent. 100 per cent.

Bilateral thrombosis, 2 cases: Flexion plantar reflex was present in 100 per cent.

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[*] Read in abstract at the Seventh Annual Meeting of the Academy of Railway Surgeons held in St. Paul, Minn., Sept. 5-6, 1900.

Delirium tremens, 2 cases: Plantar flexion was present in 1, and absent in 1, 50 per cent. each.

Feigned aphasia, 1 case; Plantar reflex was R. absent, and L. Present.

Dementia, 9 cases: Flexion plantar reflex was present in 3, 33.3 per cent.; absent in 6, 66.7 per cent.; in one plantar reflex flexion was present on one side and all reflex absent on the other.

Melancholia, 12 cases: Plantar reflex was present and normal in 2, 16.7 per cent.; absent in 10, 83.3 per cent.

Imbecility, 1 case: Plantar reflex was absent, 100 per cent.

Idiocy, 2 cases: Extension reflex existed, 100 per cent.

Extreme degree of hydrocephalus, 1 case: Plantar flexion reflex was present, 100 per cent.

Paretic dementia: 4 cases: In 2 plantar réflex was absent; in 2 present on one side and absent on the other; absent, 75 per cent., present 25 per cent.

Hip disease, 3 cases: Flexion plantar reflex was in all, 100 per cent.

Spinal rigidity, 1 case: Flexion plantar reflex was present, 100 per cent.

The following 450 cases of nervous and mental diseases have been studied with especial reference to the Babinski phenomenon, in my office, in consultation practice and in attendance on private cases in St. Luke's Hospital, during the past eighteen months.

Tumor of the brain, 8 cases: Of these 3 tumors in pyramidal region, extension plantar reflex was present in all of affected leg, 100 per cent.; flexion plantar reflex was on opposite side in 2 cases, 66.7 per cent.; absent reflex existed on opposite side in 1, 33.3 per cent. Of 5 tumors outside pyramidal region, flexion was present, 60 per cent.; absent in 1 case, 20 per cent.; flexion was present on one side, absent on the other, 20 per cent.

These tumors are divided into two classes one which invades the pyramidal or motor region, and the other which does not affect this region, and the percentage is calculated in the one instance on the number of tumors affecting the pyramidal tract, which is 3, and in the other on the number without the pyramidal tract, which in this instance is 5.

Abscess of brain, 1 case: Plantar flexion was present, 100 per cent.

Meningitis, 30 cases: Flexion was present on both sides after coma in 5, 16.7 per cent.; extension on both sides in 5, 16.3 per cent.; flexion present on one side and absent on the other 3.3 per cent.; absent in 19, 63.3 per cent.

Epilepsy, 21 cases: Plantar reflex in 18, 86 per cent.; irregular in 3, 14 per cent.

Syphilis of the brain or cord, 20 cases: Flexion was present in 15, 75 per cent.; absent in 3, 15 per cent.; irregular in 2, 10 per cent.

Old hemiplegia, 30 cases: Extension reflex on affected side in 25 cases, 83.3 per cent.; extension reflex on opposite side in 3, 10 per cent.; reflex absent on both sides in 5 or in 16.7 per cent. In the latter there were trophic changes in the paralyzed limb.

Bilateral thrombosis, 2 cases: Extensor bilateral reflex was in both, 100 per cent.

Posterior spinal sclerosis, 20 cases: Flexion plantar reflex was just perceptible, irregular or delayed in 14, 70 per cent.; absent in one foot and present in the other (flexor) in 2 cases, 10 per cent.; absent in both feet in 4 cases, 20 per cent.

Multiple neuritis, recent and old, 6 cases: Flexion was present in 2 cases, 33.3 per cent.; absent in 3, 50 per cent.; present in one foot and absent in other, 1 case, 16.7 per cent.

Anterior poliomyelitis (old and recent), 106 cases: Flexion was present in 6, 60 per cent.; present in one foot in 3 and absent in the other, 30 per cent.; absent reflex in 1, 10 per cent.

Pressure neuritis affecting sciatic nerve: 8 cases: Normal plantar reflex was present in all; 100 per cent.

Pressure neuritis of nerves of leg, 10 cases: Normal plantar reflex present in 8, 80 per cent.; absent in 2, 20 per cent.

Myelitis, 8 cases: Extensor plantar reflex was present in 50 per cent.; 4 dorsolumbar was absent, 50 per cent.

Complete transverse lesion of cord, 1 case: Plantar reflex absent, 100 per cent.

Spinal caries, 10 cases: with pressure on cord above, lumbar region 4 cases, extension plantar reflex in all, 40 per cent.; spinal caries without cord lesion, flexion plantar reflex in 4, 40 per cent.; spinal caries with cord lesion in lumbar region absent reflex, 20 per cent.

Paralysis agitans, 3 cases: Sluggish flexion existed in all, 100 per cent.

Hysteria, 10 cases: Flexion plantar reflex was in 5, 50 per cent.; absent plantar reflex in 4, 40 per cent.; flexion plantar reflex in one foot, absent in the other, 10 per cent.

Neurasthenia, 25 cases: Reflex was normal, but often almost imperceptible plantar flexion, including cases of increased plantar reflex, 23 cases, 92 per cent.; absent plantar reflex in 1 case, 4 per cent.; absent in one foot and present in the other in 1 case, 4 per cent.

Nervousness, to which name neurasthenia or hysteria can not be properly applied, 15 cases: Flexion was present in 14, 93.3 per cent.; absent in one foot and present in the other, 7 per cent.

Traumatism to head, with no gross lesions of the brain substance so far as I was able to detect, 12 cases: Flexion plantar reflex was present before shock had passed away in 10 cases, 83.3 per cent.; absent plantar reflex in 2, 16.7 per cent.; after shock is over flexion plantar reflex was found in all, 100 perment.

Traumatism to spine, with no gross lesion, 8 cases: Four cases with profound shock, plantar reflex was absent, 50 per cent.; 4 cases with minor shock plantar reflex was present, 50 per cent.

Dementia, 30 cases: Plantar flexion reflex was present in 11, 36.7 per cent.; absent in 15, 50 per cent.; extension plantar reflex in 4, 13.3 per cent.

Paretic dementia, 15 cases: Flexion plantar reflex was found in 14, 93.3 per cent.; absent in 1, 9.7 per cent.

Mania, 10 cases: Flexion plantar reflex was present in all, 100 per cent.

Melancholia, 22 cases: Plantar reflex was absent in 16, 72.7 per cent.; present, but irregular, in 6 cases, 27.3 per cent.

Paranoia, 15 cases: Flexion plantar reflex was present in all, 100 per cent.

Feigning, 4 cases: Flexion plantar reflex was in 3, 75 per cent.; plantar flexion was present in one foot and absent in the other in 1 case, 25 per cent.

Stuporous melancholia, 4 cases: Absent plantar reflex was in all, 100 per cent.

Melancholia attonita, 1 case: Normal plantar reflex was present, 100 per cent.

Weakmindedness, 10 cases: Flexion plantar reflex was present in all, 100 per cent.

Imbecility, 12 cases: Flexion plantar reflex was present in 9 cases, 75 per cent.; absent or irregular in 3 cases, 25 per cent.

Idiocy, 13 cases: Flexion plantar reflex was present in 6, 46.5 per cent.; absent in 4 cases, 30.5 per cent.; irregular in 3 cases, 23 per cent.

Deaf-mutes, 6 cases: Flexion plantar reflex was present in all, 100 per cent.

From a careful study of the literature of the plantar reflex, together with my personal investigations, I have to admit that the plantar reflex as found in children is unsatisfactory; and that the plantar reflex may be variable—irregular—absent in both feet, or absent in one foot and present in the other, more frequently than has commonly been supposed, especially by those who have not devoted considerable time to investigating this reflex in apparently healthy subjects.

It does seem to me that the claim of Collier, that extensor plantar reflex is present in total transverse myelitis, needs confirmation. Babinski did not obtain it. I have never found it in cases in which I could say that the cord was absolutely destroyed in any portion of its extent. It is not always easy to say when the cord is completely destroyed.

Langdon found the plantar reflex absent in tetanus. Collier found extensor plantar reflex present in a case of tetanus. This discrepancy between two good observers is easy to reconcile. In Langdon's case, the disease ran a rapid course and the patient died at the end of the third day, if I mistake not. Of course, the patient must have been greatly exhausted. I have found in all diseases with profound exhaustion that the plantar reflex disappears before death. In Collier's case the disease was milder, ran a slow course and the patient finally recovered. The lateral columns of the cord are probably in an irritated condition in tetanus until the stage of exhaustion is reached. The extensor plantar reflex is what we are prepared to expect in strychnin intoxication, or in fatal poisoning from this drug. This test may be of value in a diagnosis between strychnin poisoning and a hysterical attack simulating the drug poisoning.

I make this as a suggestion. May not a hysterical subject in a paroxysm so excite the pyramidal tract to such a degree as to render it possible for one to obtain a temporary or an irregular form of the Babinski phenomenon? In hysteria one occasionally obtains a quick extension of the great toe. It is soon exhausted and totally unlike the deliberate extension of the great toe found in the majority of persons suffering from disease of the pyramidal tract.

Giudiciandrea claims to have found extension of the great toe in hysteria and in normal subjects. Schüler obtained extension of the great toe in 8 per cent. of men and in 4 per cent. of women whom he examined. Cohn states that he found extension of the great toe in 20 per cent. of his subjects. He also found extension plantar reflex on the affected side of a case of hysterical paralysis.

When I began to investigate the plantar reflex with especial reference to the Babinski phenomenon, I found extensor reflex in a number in whom I was confident there was no lesion of the pyramidal tract, and I began to be skeptical as to the value of the Babinski phenomenon. I soon learned to note the difference between the pseudo-Babinski phenomenon and the phenomenon described by Babinski in 1898. On re-examining these nervous and hysterical subjects, I did not find a genuine case of the Babinski phenomenon in which there were not other evidences of disease of the pyramidal tract.

You may ask me: Does the presence of flexion plantar reflex enable one to exclude disease in the pyramidal tract? I do not think investigation has gone far enough to enable any one to give a positive answer to this query. Personally, I do not remember having met with a case of disease of the pyramidal tract in which flexion plantar reflex was present on the affected side.

Diagnosis.—That the Babinski phenomenon is valueless in diagnosis, the most skeptical deny. In fact, Martin Cohn, who is often quoted as doubting the value of the reflex under discussion, is in some respects one of its firmest supporters. His conclusions are: "In the majority of all persons an irritation of the sole of the foot is followed by flexion of the toes. In lesions of the lateral tract of the spinal cord of an organic character, an extension reflex is to be observed." He then adds: "In no way, however, can this phenomenon be regarded as a certain pathognomonic symptom for the recognition of such a disease."[8] How few symptoms have we that are positively pathognomonic of certain lesions of any organ? It is only on account of the number of irregular and unexpected results obtained by Cohn that most investigators of the Babinski phenomenon have come to look on Cohn as a skeptic.

A case presenting most of the symptoms of posterior spinal sclerosis would not be diagnosticated as a clean-cut case of this disease if the extensor plantar reflex were present. Such a reflex would probably show that the lateral columns were also diseased.

A case simulating strychnin poisoning, or tetanus, without great depression and absent extensor plantar reflex, would, in all probability, justify the diagnosis of hysteria.

Prognosis.—The Babinski phenomenon may have uses in prognosis. In the discussion on the conjoint papers, one by Walton and Paul, and the other by Fraenkel and Collins, presented to the last meeting of the American Neurological Association, Dr. Spiller said that "he believed in recent cases of hemiplegia in which the knee-jerk was found absent several days or weeks after the hemiplegia had developed and the Babinski reflex was present, prognosis was bad."[2] He admitted that he had observed only two cases that justified such a conclusion.

Prevention.—If it is found by subsequent investigators that persons following certain vocations attended with considerable exhaustion, the majority of these—as in the cases of the nurses reported by me in this paper—have absent plantar reflex and subsequently suffer from disease affecting the legs or feet, or the nervous tone more frequently than persons with normal plantar reflex, a timely investigation of the reflex may save many continuing too long in positions attended with great physical exhaustion. In fact it may be possible to judge by a study of the plantar reflex in many—especially in those whose plantar reflex is present when they are not exhausted—the degree of exhaustion from which they are suffering.

It is possible that much valuable information may be obtained by a further study of the plantar reflex, especially in the line of prevention, as well as in those of diagnosis and prognosis.

CONCLUSIONS.

1. The Babinski phenomenon is an extremely valuable sign in diagnosis, and probably in prognosis and prevention.
2. It is not a pathognomonic sign of organic disease of the lateral tract.
3. We shall learn by subsequent observations that several poisons or conditions so irritate the lateral tract as to cause a pseudo-Babinski phenomenon, or an apparently genuine one temporary in character.
4. Greater care should be used by the investigator, and the carefully studied cases should be much more numerous.

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AMONG the deaths abroad we note that of Prof. Dr. Berenger-Féraud, who published a large number of important works treating of tropical diseases as he studied them in various parts of the world in his naval service, and of surgical folklore subjects.

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THE BACTERIOLOGY OF BRONCHITIS.

Bronchitis is a common affection, both as an independent disease and as a secondary and complicating process. That bronchitis generally is an infective disease is probably not to be doubted, but considerable vagueness certainly exists as to the special organism or organisms that sustain the most important relationship to the disease. The first question to be determined in studying the bacteriology of bronchitis is whether the lower air-passages—trachea, bronchi and pulmonary alveoli—normally contain pathogenic bacteria. The majority of observers hold that the lower air-passages are normally sterile. The bacteria present in the air are probably all withdrawn as the inspired air passes through the nose and the pharynx. That bacteria are removed from the air during respiration is shown by the fact that expired air is generally sterile; and it is thought that the bactericidal power of the nasal mucosa is an important factor in cleansing the air. Direct bacteriological examination of the healthy air-passages in man and in animals has shown them in many instances sterile.

Jundell,[1] for instance, who, by means of specially constructed instruments, examined the tracheæ of 43 persons during life, found the respiratory tract below the glottis either quite sterile or else containing scanty and transitory bacteria. Assuming that the bronchi are normally sterile, it is found that in bronchitis the bronchial secretion contains a variety of bacteria which different writers consider as the causal agents. Different methods of examination naturally yield different results in the case of a secretion that is as exposed to accidental contaminations as the bronchial. Acute bronchitis in adults can be examined post-mortem only rarely. And in children, in whom acute bronchitis is so frequently present, the conditions found post-mortem may not be the same as during life, because the bronchi are in direct communication with the mouth, which harbors a rich bacterial flora; contamination by post-mortem invasion of the tissues of the body is also possible.

Everything considered, however, W. T. Ritchie[2] concludes that a careful examination of the contents of the smaller bronchi soon after death would yield reliable information as to the bacteria of bronchitis in children. A large number of cases were examined by means of a reliable technic and it was found that in practically every case of acute bronchitis there were numerous pathogenic bacteria in the bronchi, the list given including streptococci, staphylococci, colon bacilli, influenza and diphtheria bacilli, B. pyocyaneus, and encapsulated bacilli. The diplococci of pneumonia and streptococci were the most common; in the majority of the cases a mixed infection was present. The bacillus of influenza appears to cause bronchitis not infrequently, even apart from epidemic influenza. Ritchie's investigations go to prove that acute bronchitis is an infective disease not due to any single specific micro-organism. He did not extend his bacteriological study to the organs of the body in general. A complete investigation of this kind would have given us important information in regard to the relationship of the bacteria of bronchitis and general infection, terminal or otherwise.

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[1] Skand. Arch. f. Phys., 1898, viii, 284.

[2] Jour. Path. and Bact., 1900, vii, 1-21.

OBSTRUCTIVE BILIARY CIRRHOSIS.

Cirrhosis of the liver is an exceedingly interesting process, which, in spite of the great amount of work devoted to make clear its exact etiology, still remains imperfectly understood. One reason for the comparative mystery that surrounds the exact pathogenesis of many forms of hepatic cirrhosis is the failure to discover reliable methods whereby experimental cirrhosis may be produced with certainty. Reduced largely to the study of post-mortem material, the investigators have exhausted histological and bacteriological methods without fully solving the intricate problems involved. A number of more or less distinct forms of cirrhosis of the liver have gradually been established and in the case of at least one form, namely, obstructive biliary cirrhosis, the exact etiology is now fairly well understood, largely because in this case it was possible to make suitable experiments upon animals.

William W. Ford[1] presents a full review of the observations on this form of cirrhosis. Since J. Wickham Legg, in 1874, and J. M. Charcot, in 1876, established obstructive biliary cirrhosis as a separate disease, something over 200 cases have been collected from the literature, 184 by Mangelsdorff in 1882 and 21 by Ford for the period 1882-1900. Ford adds 3 new cases from the Royal Victoria Hospital in Montreal. It has been shown by a number of experimenters that complete obstruction to the outflow of bile in animals leads to an interlobular cirrhosis, caused, as Ford concludes, by the damming back of the bile, and not necessarily secondary to a cholangitis of the smaller bile-channels. In man complete occlusion of the bile-ducts leads to a cirrhosis of the liver; here inflammation of the walls of the biliary channels is always present and this cholangitis is of etiological importance in causing the cirrhosis, being superadded to the effects of the damming up of the bile. Anatomically, obstructive biliary cirrhosis does not differ so much from Hanot's hypertrophic cirrhosis with jaundice, but the symptom-complex of obstructive cirrhosis differs wholly from that of Hanot's cirrhosis; hence the two forms are quite distinct. In obstructive biliary cirrhosis the course of the disease is acute, without intermission of symptoms, the jaundice being deep from the first; the liver, at first large, commonly contracts and there develop ascites, edema of the extremities and caput medusæ. In hypertrophic cirrhosis the course is chronic, the jaundice slight at first and then increasing, the liver rarely contracting.

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[1] American Journal of the Medical Sciences, cxxi, 60-84.

The causes that lead to obstructive biliary cirrhosis may be congenital deficiency of the bile-ducts, gall-stones and the consequences thereof, carcinoma of the head of the pancreas, and the pressure of enlarged lymphatic glands at the hilus of the liver. The livers are greatly enlarged with a rough surface, the weight is increased, the cut surface showing greatly dilated biliary passages and areas of new connective tissue. As indicated, contraction occurs in the later stages with obstruction to the portal circulation. Hypertrophic cirrhosis with jaundice—Hanot's cirrhosis, biliary cirrhosis—shows a symmetrically enlarged and jaundiced liver, the common and hepatic ducts being pervious. The French school hold that Hanot's cirrhosis is caused primarily by infection, and it thus differs etiologically also from obstructive biliary cirrhosis.

DISINFECTION OF THE URINE FROM CASES OF TYPHOID FEVER.

Even before the discovery of the typhoid bacillus and the establishment of its etiologic relations, it was appreciated that the intestinal discharges constituted an important agency for the transmission of the hypothetic virus of the disease. As time went on and bacteriologic knowledge increased, it became recognized that typhoid fever is not exclusively a disease of the intestinal tract, i. e., that its lesions are not confined to these structures; and, further, that the intestine may even escape. Alert and industrious investigators soon showed that typhoid bacilli are eliminated with the urine in a considerable proportion of cases of typhoid fever, sometimes in enormous number and generally in pure culture. The micro-organisms do not, as a rule, appear in the urine until the second or third week of the disease, and when once present they may persist for long periods of time, even for years. The urine may exhibit little or no other alteration, and the presence or the absence of bacilli is thought to be without prognostic significance.

With the knowledge of these facts, it is obvious that the urine, not less than the intestinal discharges, may be an important factor in the transmission of typhoid fever, and both should, therefore, be equally subjected to disinfection as a prophylactic measure. Dr. N. B. Gwyn[1] has recently reported the results of an investigation into the comparative value of various disinfectants in rendering sterile urine containing typhoid bacilli. It was found that milk of lime, or slacked lime, while the cheapest disinfectant, is neither rapid nor certain in action, and in order to obtain results at all satisfactory one must use a solution so concentrated that on standing it will precipitate half of its actual volume of lime. Carbolic acid proved of value only in large amount, or in very strong solution. Mercuric chlorid, on the other hand, acted as a powerful and rapid disinfectant, only a small amount being required, and having the further advantage of being clean, odorless and easily applied. Formaldehyde was found to be a fairly efficient disinfecting agent, but its cost precluded its use in any but dilute solution. Chlorinated lime, prepared in saturated solution and using the supernatant fluid, proved itself a most reliable disinfectant, free chlorin being evolved on addition to the urine. The liquid chlorids—a mixture of zinc, aluminum and copper chlorid—was somewhat less active.

For disinfection of the urine in the bladder and the urinary system, urotropin, administered by the mouth, has been employed, with the results more or less satisfactory. Solutions of mercuric chlorid, 1 to 100,000 or 1 to 50,000, may be employed for irrigation of the bladder, and with some assurance that any bacilli in this viscus will be destroyed.

THE OPERATIVE TREATMENT OF SUBDURAL HEMORRHAGE.

The usual cause for hemorrhage into the brain is rupture of a diseased vessel, sometimes superinduced by increased blood-pressure. The condition, therefore, apart from the generally inaccessible situation of the extravasation, is one from the operative treatment of which not much is to be expected. Hemorrhage into the membranes of the brain, however, is more commonly of other etiology, and is correspondingly more amenable to surgical intervention. This condition is often due to traumatism, resulting in rupture of one of the venous sinuses of the dura mater internally, or of the middle meningeal artery, or of the veins of the cortical pia mater. Independently of traumatism, it may be due to rupture of aneurysms of the large arteries at the base or on the convexity of the brain, to the escape of blood from an intracerebral hemorrhage, to senility, chronic disease of the kidneys, heart or blood-vessels, hemorrhagic disease, such as purpura, scurvy, hemophilia, anemia, leukemia, hematoma in the insane—bleeding from a meningeal vein—internal hemorrhagic pachymeningitis, and activity in an overheated atmosphere. The symptoms are not always distinctive and the diagnosis is sometimes exceedingly difficult. When, however, it appears reasonably certain that an intracranial extravasation of blood has taken place in an accessible situation, operation will be clearly indicated. The number of cases in which this has been successfully undertaken is not large, although sufficiently so to justify its performance under suitable conditions.

An instance of this kind has recently been reported by Dr. J. Ramsay[1], of Launceston, Tasmania. The patient was a man, 54 years old, addicted to alcoholic excess, who had set out to bring home a newly purchased horse, and was found unconscious on the road, with the horse standing beside him. In the course of an hour or two consciousness partially returned and the man became greatly excited. When examined, some forty hours later, a small bruise of the scalp was found in the left occipital region, without evidence of injury to the skull. Occasional irregular movements and twitching appeared in the right wrist and hand, later also in the left, then likewise in the lower extremities, and finally on the left side of the face. A general convulsion now occurred, and was followed by several others, urine and feces being passed involuntarily. In the attacks the movements began on the left side of the face, extended to the upper and the lower extremity on the same side, and then became general, the right side of the face alone not being involved. In the intervals the right arm was rigid and the left flaccid. The urine contained albumin. Breathing became Cheyne-Stokes in character. The condition not yielding to bleeding and sedatives, trephining was undertaken. On exposure of the right motor area a large flat blood-clot was found on the surface of the brain just beneath the dura. This was removed and the wound closed. Two convulsions occurred subsequently, but none thereafter. Some mental and motor impairment remained, though gradually lessening in degree.

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[1] Proceedings Philadelphia County Medical Society, xxi, No. 7, N. S., ii, 283.

[1] Intercolonial Med. Jour. of Australasia, v, 10, p. 491.

THE SALT CURE!

A Paris dispatch says all medical Paris is ringing with laughter over American physicians' enthusiasm in the salt cure. One physician is reported as saying that "these Christopher Columbuses of the medical profession on the other side of the Atlantic have disclosed one thing, that is, their ignorance and credulity." It might be said, on this side, that whoever is thus excited to laughter on the other side of the Atlantic displays equal ignorance and credulity in putting faith in yellow-journal reports that American physicians are enthusiastic over the salt cure.

DEATH OF QUEEN VICTORIA.

The death of Queen Victoria is an event that in many ways calls for notice even in a journal not devoted to general recording of political events. Her long and beneficent reign covered nearly the whole period in the past century in which the epoch-making advances in our science have been made. The Victorian era will go down in the history of medicine, as in that of literature and of science, as the brightest in our records. No ruler has had his or her name associated with so much that is of benefit to our race, or has, within the limitations of the position, more deserved it. In her personal character, which is of more importance in a monarch now than was formerly the case, she has left an example that it is hoped will be followed by her successors for all time. It is worthy of mention in this connection that the new king of England has done himself the honor of accepting an honorary membership in the medical profession. We trust that he may worthily wear it in his new responsibilities.

THE KANSAS LYNCHING.

The disgrace to Colorado in the brutal lynching of a negro by burning noticed in The Journal, last month, has been paralleled by a similar outrage in Kansas. These two occurrences indicate a psychological condition of the communities in which they occur, and in which, it is claimed, conviction for the crime is impossible; that is certainly worth consideration. Such relapses toward savagery would seem to warrant the views of some anthropologists as to the degeneration of the white race in America, but for the fact that in these, as in nearly all outrages on negroes in the northern states, the foreign-born element largely prevails. What they really indicate is that in certain classes of society civilization is only skin deep and in communities where the enforcement of the law is lax the underlying brutality will show itself. What Kansas and Colorado need is the thorough application of the law to lynchers, and until this is done they will remain disgraced. If conviction is impossible in Leavenworth, that city will have to bear its special dishonor which it thus insures.

REGULATION OF PRACTICE IN MICHIGAN.

The Michigan State Board of Registration has made its report to the governor and includes in it, among other like facts, that a number of persons were found practicing medicine under diplomas or certificates as pharmacists, dentists, etc. In one case where the practice had been carried on for years under the sanction of a dental diploma, the nature of the qualifications was explained to the holder, who remarked that it was "very funny; I paid for the other kind and supposed I had it." The members of the legislature can appreciate such facts as the above and realize that the state board is a protection to the welfare of the citizen. It is to be hoped that they will remember this when the quacks make their attack on the state board in the present session. The Michigan law is far from being an ideal measure, but the present state board is demonstrating what can be done even with such an imperfect medical-practice act. It is "the man behind the gun" that wins battles, and there are states with far better laws than that of Michigan that are worse protected against quacks.

ANTITOXIN.

The New York *Tribune* of January 13 publishes reports obtained from the respective health departments, and from inquiries of physicians, as to the effects of the use of antitoxin in diphtheria in various cities. In Baltimore the report of Dr. William Royal Stokes, city bacteriologist, gives a mortality with its use of less than 9 per cent., and of only 36 per cent. in the laryngeal form of the disease. In Chicago the reduction of the death-rate from diphtheria has been 50 per cent.; in Buffalo the mortality from the disease has been lowered over 60 per cent., and the results of the antitoxin treatment, as shown by the actual figures when they were compiled, astonished even the health officials themselves. In St. Louis the general consensus of opinion among physicians seems to be unanimously in favor of antitoxin, and in the city hospital where only the worst cases are found, it is the routine to give it in all cases of throat trouble before bacteriologic examination is made. In Paterson, Newark and Jersey City the same story was told. In Newark where statistics were reported they gave a decreased mortality of the disorder from 38 per cent. to 15.4 per cent., and in 1899, when, according to the percentage tables there should have been under the antitoxin treatment 445 deaths, there were actually only 124. In that city also figures are given of the death-rates of cases treated with and without antitoxin respectively, showing a nearly double ratio of the latter. All these statements, of course, only confirm the general testimony from the experience of the profession, but as long as there are still some posers as unbelievers in antitoxin it is well they should be placed on record. While as a rule attempts at publication of medical facts in lay journals are not to be commended, in a case like the one here noted the effects are likely to be salutary.

INCREASED MORTALITY FROM CARCINOMA.

The truth is not always pleasant, but however unpalatable, it is probably never so potential for evil as even sugar-coated error. Attention has been called by a number of observers to the fact that carcinoma is becoming increasingly prevalent, but the statement has not been acceptable and attempts have been made to cast doubt upon its accuracy. Nevertheless, the evidence would seem to suport the contention for such an increase. Thus, Thomas Oliver,[1] in discussing the question of the heredity of carcinoma, points out that statistics, both in England and in America, show that while the mortality-rate from tuberculosis is decreasing, that from carcinoma is notably on the increase. Thus, the mortality records of the Mutual Life Insurance Company, of New York, covering the period from 1843 till 1898 and dealing with 46,525 deaths include 882 due to carcinoma. The age-period in which the largest number of deaths from this cause occurs is from 55 to 60 years. In 1879 the percentage of deaths from carcinoma between the ages of 50 and 70 years was 4.23; in 1889, 6.22; in 1898, 7.59. According to the statistics of the Scottish Widows' Fund, the statistics of the deaths from carcinoma were, from 1815 till 1845, 0.93 per cent. of the whole number; from 1845 till 1852, 0.72; from 1852 till 1859, 2.87; from 1859 till 1867, 3; from 1867 till 1873, 4.56; from 1873 till 1880, 4.34; and from 1880 till 1887, 5.23. Twice as many females as males die from carcinoma, their mean age of death being 62.29 years, as against 60.43 years for males.

THE GOVERNOR OF CALIFORNIA ON THE PLAGUE.

The recent message of the Governor of California is interesting reading from a medical point of view. Although a layman, he poses as a medical expert and declares that from his own investigation he has proved that no plague has existed at any time in San Francisco, the opinions of the United States quarantine officers to the contrary notwithstanding. He suggests, moreover, that the only basis for the reports is the possible escape of plague germs from cultures and slides recklessly carried around in the pockets of "certain physicians and others," and that they innocently or otherwise inoculated a Chinese cadaver producing—post-mortem it appears—the enlarged glands and other macroscopic and microscopic signs of the disease. In view of the dangers he thus assumes in the above brilliant conception, he calls upon the legislature to make it a penal offense, with a maximum sentence of life imprisonment, for any one to have in possession or make from any case of plague any such cultures and slides without the written permission of the state board of health, fortified still further by executive approval. He would also make it a felony to publish any false reports of the existence of plague or to neglect to immediately inform the state board of health of any real or suspected case. The unlucky physician who suspects plague is thus between the devil and the deep sea; he is a felon if he falsely diagnoses, and also one if he fails to give utterance to his suspicions to a body that may for all he knows be conveniently organized to suppress such facts. The general tone of this part of the message, with its idiotic surmises and special pleading, indicates rather an attempt to prove a bad case than a genuine conviction that plague has not occurred. His muddle-headedness in regard to infection from "microscopic slides" and the inoculation of cadavers is funny, to say the least, and beautifully illustrates his pretensions to competency as an expert on the plague question in San Francisco. As a state paper, in this respect, the message is unique.

THE ACTION OF TUBERCULOUS TOXINS ON THE OFFSPRING OF THE TUBERCULOUS.

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[1] Lancet, Nov. 10, 1900, p. 1335.

[1] Arch. Med. Exp. et d'Anat. Path., 1900, xii, 782-787.

THE SALT CURE!

A Paris dispatch says all medical Paris is ringing with laughter over American physicians' enthusiasm in the salt cure. One physician is reported as saying that "these Christopher Columbuses of the medical profession on the other side of the Atlantic have disclosed one thing, that is, their ignorance and credulity." It might be said, on this side, that whoever is thus excited to laughter on the other side of the Atlantic displays equal ignorance and credulity in putting faith in yellow-journal reports that American physicians are enthusiastic over the salt cure.

DEATH OF QUEEN VICTORIA.

The death of Queen Victoria is an event that in many ways calls for notice even in a journal not devoted to general recording of political events. Her long and beneficent reign covered nearly the whole period in the past century in which the epoch-making advances in our science have been made. The Victorian era will go down in the history of medicine, as in that of literature and of science, as the brightest in our records. No ruler has had his or her name associated with so much that is of benefit to our race, or has, within the limitations of the position, more deserved it. In her personal character, which is of more importance in a monarch now than was formerly the case, she has left an example that it is hoped will be followed by her successors for all time. It is worthy of mention in this connection that the new king of England has done himself the honor of accepting an honorary membership in the medical profession. We trust that he may worthily wear it in his new responsibilities.

THE KANSAS LYNCHING.

The disgrace to Colorado in the brutal lynching of a negro by burning noticed in THE JOURNAL, last month, has been paralleled by a similar outrage in Kansas. These two occurrences indicate a psychological condition of the communities in which they occur, and in which it is claimed, conviction for the crime is impossible; that is certainly worth consideration. Such relapses toward savagery would seem to warrant the views of some anthropologists as to the degeneration of the white race in America, but for the fact that in these, as in nearly all outrages on negroes in the northern states, the foreign-born element largely prevails. What they really indicate is that in certain classes of society civilization is only skin deep and in communities where the enforcement of the law is lax the underlying brutality will show itself. What Kansas and Colorado need is the thorough application of the law to lynchers, and until this is done they will remain disgraced. If conviction is impossible in Leavenworth, that city will have to bear its special dishonor which it thus insures.

REGULATION OF PRACTICE IN MICHIGAN.

The Michigan State Board of Registration has made its report to the governor and includes in it, among other like facts, that a number of persons were found practicing medicine under diplomas or certificates as pharmacists, dentists, etc. In one case where the practice had been carried on for years under the sanction of a dental diploma, the nature of the qualifications was explained to the holder, who remarked that it was "very funny; I paid for the other kind and supposed I had it." The members of the legislature can appreciate such facts as the above and realize that the state board is a protection to the welfare of the citizen. It is to be hoped that they will remember this when the quacks make their attack on the state board in the present session. The Michigan law is far from being an ideal measure, but the present state board is demonstrating what can be done even with such an imperfect medical-practice act. It is "the man behind the gun" that wins battles, and there are states with far better laws than that of Michigan that are worse protected against quacks.

ANTITOXIN.

The New York *Tribune* of January 13 publishes reports obtained from the respective health departments, and from inquiries of physicians, as to the effects of the use of antitoxin in diphtheria in various cities. In Baltimore the report of Dr. William Royal Stokes, city bacteriologist, gives a mortality with its use of less than 9 per cent., and of only 36 per cent. in the laryngeal form of the disease. In Chicago the reduction of the death-rate from diphtheria has been 50 per cent.; in Buffalo the mortality from the disease has been lowered over 60 per cent., and the results of the antitoxin treatment, as shown by the actual figures when they were compiled, astonished even the health officials themselves. In St. Louis the general consensus of opinion among physicians seems to be unanimously in favor of antitoxin, and in the city hospital where only the worst cases are found, it is the routine to give it in all cases of throat trouble before bacteriologic examination is made. In Paterson, Newark and Jersey City the same story was told. In Newark where statistics were reported they gave a decreased mortality of the disorder from 38 per cent. to 15.4 per cent., and in 1899, when, according to the percentage tables there should have been under the antitoxin treatment 445 deaths, there were actually only 124. In that city also figures are given of the death-rates of cases treated with and without antitoxin respectively, showing a nearly double ratio of the latter. All these statements, of course, only confirm the general testimony from the experience of the profession, but as long as there are still some posers as unbelievers in antitoxin it is well they should be placed on record. While as a rule attempts at publication of medical facts in lay journals are not to be commended, in a case like the one here noted the effects are likely to be salutary.

INCREASED MORTALITY FROM CARCINOMA.

The truth is not always pleasant, but however unpalatable, it is probably never so potential for evil as even sugar-coated error. Attention has been called by a number of observers to the fact that carcinoma is becoming increasingly prevalent, but the statement has not been acceptable and attempts have been made to cast doubt upon its accuracy. Nevertheless, the evidence would seem to suport the contention for such an increase. Thus, Thomas Oliver,[1] in discussing the question of the heredity of carcinoma, points out that statistics, both in England and in America, show that while the mortality-rate from tuberculosis is decreasing, that from carcinoma is notably on the increase. Thus, the mortality records of the Mutual Life Insurance Company, of New York, covering the period from 1843 till 1898 and dealing with 46,525 deaths include 882 due to carcinoma. The age-period in which the largest number of deaths from this cause occurs is from 55 to 60 years. In 1879 the percentage of deaths from carcinoma between the ages of 50 and 70 years was 4.23; in 1889, 6.22; in 1898, 7.59. According to the statistics of the Scottish Widows' Fund, the statistics of the deaths from carcinoma were, from 1815 till 1845, 0.93 per cent. of the whole number; from 1845 till 1852, 0.72; from 1852 till 1859, 2.87; from 1859 till 1867, 3; from 1867 till 1873, 4.56; from 1873 till 1880, 4.34; and from 1880 till 1887, 5.23. Twice as many females as males die from carcinoma, their mean age of death being 62.29 years, as against 60.43 years for males.

THE GOVERNOR OF CALIFORNIA ON THE PLAGUE.

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[1] Lancet, Nov. 10, 1900, p. 1335.

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THE CLUMPING OF BACILLI AND OF RED CORPUSCLES.

The essential importance of physico-chemical processes in biological phenomena is becoming more and more generally recognized. Indeed, it is along physico-chemical lines that we may look for satisfactory explanations of many phenomena in normal as well as pathological conditions, phenomena the existence of which is made clear, but not fully explained by studies of a morphological nature. And it is probably in this very field that the new century will witness the most far-reaching achievements in physiology and pathology. Sir Lauder Brunton's simple experiments[1] illustrating the clumping of bacteria and the formation of rouleaux by red blood-corpuscles show well what a flood of light may be thrown on such phenomena when they are approached from the standpoint of physics and chemistry. If lucifer matches are covered with hard soap and thrown into a flat trough containing water they float about indifferently, but if the water is acidulated the artificial bacteria are at once drawn together into clumps. If the fluid is made alkaline the clumps do not reform when broken up. On the addition of litmus to the water, the changes in color will indicate the changes in reaction. Artificial blood-corpuscles may be made out of sheet cork cut into discs and loaded on one side with bits of lead so as to float upright. As long ago as 1869 Norris showed that partially submerged artificial corpuscles are drawn together and form rouleaux. If totally submerged they remain separate. If dipped in petroleum they coalesce even under water. And Brunton shows typical rouleaux formation by treating cork corpuscles in the same way as he treated matches. These peculiar and interesting manifestations are probably connected with changes in the surface tension produced, and so Brunton suggests that the clumping of bacilli and the formation of rouleaux may be due to the liberation of some fatty substance by the action of carbonic acid. In the case of bacilli provided with flagella, clumping is more complex, because the flagella must be rendered motionless. Whatever the ultimate explanation, these experiments are certainly valuable also as a ready means of demonstrating to students how clumping may be produced.

Medical News.

CALIFORNIA.

Dr. J. J. Kinyoun, U. S. M.-H. Service, federal quarantine officer at San Francisco, is ill with appendicitis at his home on Angel Island.

Dr. Charles S. Stoddard has been appointed county physician and health officer for Santa Barbara and Montecito, at an annual salary of $1000.

The position of physician of Shasta County, which now pays $900 a year, is so much desired that three aspirants have filed petitions. One of these gentlemen generously offers, if elected, to do the work for $600 a year.

The charges of criminal neglect preferred against Dr. David Gochenauer, physician of San Deigo County, have been dismissed by the county board of supervisors, which at the same meeting re-elected Dr. Gochenauer county physician for the present year.

CONNECTICUT.

The Class of 1903, Yale Medical School, has adopted resolutions expressing its deep sympathy with the family of Arthur Ely, a member of the class, who recently died, and its sense of loss as a class by his death.

The new Maternity Hospital, erected at a cost of $38,000, on the grounds of the New Haven Hospital, under the supervision of a committee, of which Dr. William H. Carmalt was a member, was opened for inspection January 4.

Bristol has appointed four physicians as town physicians for the year, allowing each a compensation of $125 per annum.

The Board of Aldermen of Hartford, after much heated discussion, has decided to increase the salary of the city physician from $600 to $1000.

DELAWARE.

As a result of the January examination for license to practice, seven applicants have been granted certificates by the State Examining Board.

The Delaware State Hospital at Farnhurst, through its trustees, reports a deficit of $25,000 in the last two years, due to increase in the number of patients. It asks for an appropriation of $131,000 for the next two years.

Delaware Hospital, Wilmington, is a beneficiary by the will of the late Dr. W. W. Lesley, to the extent of $11,000, which is to be used to establish two free beds to be known as the William Wood Lesley and Sarah A. Lesley memorial beds.

The annual meeting of the trustees of the Delaware Hospital for the Insane was held in Wilmington, January 3, when contracts were awarded for food supplies for the institution. At this meeting Dr. Jean M. Wilson, pathologist to this hospital, sent in his resignation.

DISTRICT OF COLUMBIA.

Dr. George W. Foster, who has been connected with the Government Hospital for the Insane for about nine years, has resigned to accept the superintendency of the Second Hospital for the Insane at Bangor, Me.

The Columbian University Hospital, Washington, had its annual meeting January 3, at which the need of additional facilities was strongly urged. Dr. Albert F. A. King was elected president of the board, and Dr. E. A. de Schweinitz, secretary.

A bill has been introduced in the House of Representatives providing that the directors of Providence Hospital, Washington, be authorized to erect additional buildings and make such improvements for hospital purposes as they may deem proper on Square 764, now owned and occupied by that institution.

The attorney for the District, who was called on to decide whether or not an "electrical physician" required a license to practice, is of the opinion that unless the practice of an "electrical physician" is identical with the practice of massage, or the so-called Swedish movement cure, or unless the applicant intends to use ordinary domestic remedies without fee, gift, or consideration of any kind, he is required to obtain a license in accordance with the provisions of the act of Congress.

ILLINOIS.

Dr. George A. Zeller, Peoria, superintendent of the Hospital for Incurable Insane, who is now in the Medical Department of the Volunteer army in the Philippines, writes that he does not intend to return until the expiration of his term of service.

Because of the present system of appointing internes to Cook County Hospital, whereby none of the thirty-two internes at present is a native of Cook County, it is suggested that the positions be divided into three classes, one-third for the county, one-third for the state, and one-third for outsiders. The examinations would remain as at present; but it is thought that Cook County ought to retain the advantage of its institutions and not throw away all its benefits on outside physicians.

Efforts will be made by the Illinois Society for the Prevention of Consumption to induce the legislature to appropriate $200,000 for the establishment of a state sanitarium for the care of tuberculosis. Plans and estimates for the sanitarium have been completed, and Dr. John A. Robison, secretary of the society, has been instructed to submit them for the approval of the State Board of Health. The project is indorsed by Mayor Harrison, Health Commissioner Reynolds and the State Medical Society.

Chicago.

Judge Baker has remitted the fine noted last week, on Dr. Charles Eberlein, who left the court-room where he had been summoned as a witness.

The total mortality of Chicago for the week ended January 19 was 509, a mortality per annum of 16.61 per 1000. Of children under 1 year 111, and of adults over 60 years 107 died. Pneumonia caused 120 deaths; influenza, 18; consumption, 52, and violence, 26.

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[1] Journal of Pathology and Bacteriology, 1900, vii, 53-54.

Among recent additions to the teaching force of Rush Medical College are D. G. Lingle, professor of experimental physiology; W. D. Zoethout, laboratory professor of neurology; F. C. Waite, assistant in anatomy, and C. H. Miller, technical assistant in the department of anatomy.

The State Board of Health has begun a crusade against the unlicensed practitioners, "healers," "magnetic physicians" and the like. "Dr." H. F. Coates, a "magnetic healer," was arrested January 13, while giving a "magnetic" treatment to 25 women. Edward Podatzekie was fined $100, January 14 for practicing medicine on a license issued to his wife.

On January 22, the isolation hospital contained 49 smallpox patients. Dr. Isaac W. Rawlings has been placed in charge of the hospital. The cases which are now being found come from a large area, extending all over the city. Three cases were taken to the hospital from Cook County Hospital and one from Michael Reese Hospital on January 21.

Except as to the smallpox situation the public health conditions have materially improved during the past week. Pneumonia is less virulent and the number of deaths from this cause is 25 per cent. less than for the preceding week. Unless the recent dust storms again kindle up the smoldering infection there is reason to believe that the worst of this outbreak is over.

The Chicago Clinical School has transferred to Dr. George Thomas Palmer the *Chicago Clinic*, which will be conducted by him beginning with the January number. It will hereafter be edited by Dr. Marcus P. Hatfield, and every effort will be made to make it a popular medical publication. This publication has been conducted for 13 years; it was started as the *Omaha Clinic*.

COMMISSIONS PROHIBITED.

Resolutions of great interest to the profession were presented at the January 23 meeting of the Chicago Medical Society, and after brief discussion, were referred to a committee consisting of Drs. James H. Stowell, Frank Billings, John B. Murphy, Louis L. McArthur and N. S. Davis, Jr. The resolutions were as follows:

> Whereas, It is commonly reported that some consultants and operators are in the habit of compounding fees; and,
>
> Whereas, The giving of commissions or a part of the fees by physicians or surgeons to any other person is detrimental to the good name of the profession and reduces the practice of medicine to the lowest commercial basis:
>
> 1. Because it is in effect the employment of an individual drummer for personal advertising;
> 2. Because it in effect promotes one's personal gains at the expense of other well-qualified physicians by an underhanded method of cutting fees, and,
> 3. Because it is in effect the *practicing* of a confidence game upon the patient; therefore, be it
>
> *Resolved*, That this course is considered dishonorable by this Society, and shall subject any member practicing it to expulsion.
>
> *Resolved*, That every member knowing or hearing of any member of the Society violating the spirit of this resolution is hereby earnestly requested to report the same to the committee on judiciary, in writing, with the fullest possible circumstantial statement, to the end that the facts or rumors may be thoroughly investigated for the benefit of the accused and for the benefit of the Society.
>
> *Resolved*, That it shall be the duty of the committee to employ every means in its power to ascertain the facts in the case; that it shall notify the accused of the charges; and shall give him every facility to explain the matter, and that it shall report its findings to this Society as soon as practicable.
>
> *Resolved*, That the willful violation of the spirit of these resolutions after this date shall be a good and sufficient cause for expulsion from this Society, and that upon the report of the committee upon any case, a three-fourths vote of the members present, by secret ballot, shall determine the action of the Society.
>
> *Resolved*, That the Secretary be instructed to send a copy of these resolutions to every member of the Society and to the various medical journals in this country.

INDIANA.

Dr. John R. Mauk, Cambridge City, one of the oldest and best-known physicians in eastern Indiana, is seriously ill.

Senator Charles Whitcomb will introduce bills at this session of the legislature establishing a state hospital for dipsomaniacs and other inebriates and one requiring county coroners to be physicians.

The State Board of Medical Registration is considering the proposition of slightly lowering the minimum requirements for the colleges that want their graduates to practice medicine in the state without examination.

During December, 2607 deaths were reported in Indiana, 308 of which were from consumption, 299 from pneumonia, 139 from typhoid fever and 20 from influenza. In Indianapolis and Evansville tuberculosis and pneumonia caused more than 70 per cent. of the total mortality.

IOWA.

Dr. Albert C. Phillips, Sioux City, being the lowest bidder for the position of physician of Woodbury county, has been awarded the contract, at $600 a year.

The Wapello County Medical Society has passed resolutions on the death of its late member, Dr. C. C. Powell, extending sympathy to his family and expressing its sense of bereavement at his death.

The physicians of Clinton have organized a Physicians' Protective Association with Dr. David T. Nicoll as president and Dr. Edward L. Martindale secretary. They agreed to furnish the secretary with names of candidates for the "blacklist," and condemned the plan of letting out the care of the county poor to the lowest bidder.

Iowa surgeons have entered on a crusade against the payment of commissions to country practitioners who send them cases for operation. They hope to secure the adoption of resolutions opposing this practice, when the State Medical Society meets in May, and to secure a bylaw making the penalty on any member of the society guilty of the practice, expulsion.

The State Board of Health has passed new rules providing that whenever any person shall be sent to any institution under the control of the board, except to either of the penitentiaries, from a locality where smallpox, diphtheria or scarlet fever is prevalent at the time of the reception of said person in the institution, there shall be furnished to the chief executive officer so receiving said person, a certificate that said person has not for seventeen days next preceding the time of sending been exposed to any such disease. And if, in such cases no certificate is furnished, said chief executive officer shall refuse to receive said person in said institution.

KANSAS.

Dr. W. B. Swan, Topeka, secretary of the State Board of Health, reports 262 cases of smallpox in the state, with two deaths.

Dr. Winifred S. Ferguson, Kansas City, has been fined $25 and costs for failure to report to the authorities a case of smallpox.

The physicians of the state are planning to secure legislation providing proportionate representation on the State Board of Health for the schools of medicine recognized by law. At present there are more than 2000 physicians of the regular school in the state and 317 of the homeopathic and eclectic schools; yet the State Board of Health consists of 3 regulars, 3 homeopaths, and 3 eclectics.

An unregistered physician of Anthony, who sued the estate of a deceased patient for $3050 for services rendered, had his claim disallowed by the probate judge, because he had no diploma from any medical school, and was not a member of any medical society. Under the laws of the state he is not recognized as a physician, and is therefore not entitled to collect any amount for services rendered.

MARYLAND.

Dr. R. P. Winterode, a graduate of the Baltimore Medical College, has been appointed pathologist at the Maryland Hospital for the Insane, Catonsville, to succeed Dr. Cornelius Deweese, recently resigned to accept a similar position at the Government Hospital, Washington, D. C.

The directors of the United Charities Hospital, Cambridge, Dorchester county, elected the following medical staff for the next two years: Drs. B. W. Goldsborough, chief of staff; Drs. John Mace and Guy Steele, local staff; Dr. Thomas S. Cullin, gynecologist; Dr. Nathan R. Porter, surgeon; Dr. Herbert Harlan, diseases of eye and ear; Drs. William Osler and Howard A. Kelly, consultants.

The State Board of Health, at its annual meeting, January 10, elected the following officers: Dr. William H. Welch, president; Dr. William B. D. Penniman, chemist, and Dr. W. Royal Stokes, bacteriologist. Dr. Johns Fulton, the secretary, submitted his annual report. There are 31 cases of smallpox in the state outside of Baltimore, viz., 6 in Allegheny county, 24 in Prince George's county, and 1 in Montgomery county. All these patients are in quarantine, and suspected persons are under observation, and Dr. Fulton says no alarm need be felt.

Baltimore.

Dr. Aaron Friedenwald has been elected president of the McCulloh Street Synagogue.

When an emergency call for vaccin physicians was made, January 6, 23 out of 24 physicians responded, and the twenty-fourth was prevented by illness.

A bill to pension the widow of Dr. Jesse W. Lazear, who died in Cuba, Sept. 25, 1900, while investigating yellow fever has been introduced in congress by Representative James W. Denny, of this city.

Dr. Charles W. Chancellor will memorialize the legislature of West Virginia to renew his lease of Berkeley Springs, which expired in 1900. He agrees to expend $50,000 in improvements on the springs. There will be determined opposition by other would-be lessees.

Dr. Anna Giering, of this city, was arrested at the instigation of Mr. Anthony Comstock. agent of the New York Society for the Suppression of Vice, January 10, on the charge of using the mails for unlawful purposes, namely, for procuring criminal operations. She was held in $2500 bail, and her daughter-in-law was held for a like amount.

The Charles Frick branch of the library of the Medical and Chirurgical Faculty of Maryland, now has 1693 volumes, 336 having been added during the year. A large proportion of these are new books and monographs. The files of some of the most valuable English journals and hospital reports were completed by purchases made in London. One thousand five hundred and thirty-four books were taken out by readers, and the number of readers frequenting the rooms was 3976 last year.

The sentence of Dr. George C. Worthington, who was convicted of manslaughter, in causing the death by criminal operation, of Amelia A. Miller, and who was given ten years in the penitentiary, has been confirmed by the State Court of Appeals. Strong efforts have been made to keep him out of the penitentiary. He was twice convicted of manslaughter, but the first verdict, in October, 1899, was set aside because one of the jurors was under age.

MASSACHUSETTS.

Dr. Henry C. Williams, Boston. has established a surgeon's room at the Lagrange street police station, equipped with all remedies and appliances for emergency medicine and surgery.

Dr. Frederick S. Ward, for the past two years in charge of the pathological work of the Taunton State Insane Hospital. has resigned his position with that institution and opened an office for private practice in Springfield.

The Boston Board of Health has amended somewhat the regulations with regard to contagious diseases. Any person infected with smallpox, scarlet fever, diphtheria or croup shall be immediately isolated, and shall not leave the room or place until the board of health shall have certified in writing that all danger of communicating the disease is past. No one but the attending physician, nurse and agents of the board of health shall enter an apartment set aside for the treatment of contagious disease, or leave, until the danger is past and a certificate has been issued by the board.

MICHIGAN.

By a recent order of the faculty of the State University, all medical students are required to wear Red-Cross badges, as more strict precautions are enforced against the students of this department who are supposed to be more exposed to infection than those in the other departments of the university.

The State Board of Registration in Medicine in its annual report shows that since January, 1900, 310 practitioners have been granted certificates to practice medicine upon presenting diplomas from reputable medical colleges. Forty-three medical colleges have been placed on the list of reputable medical colleges. Altogether the board has issued certificates to 4250 practitioners. It is estimated that about 600, or at least fully 50 per cent. of the itinerant practitioners have left the state, while there remain about 200 unregistered physicians still in practice. It is said that the ranks are being gradually and surely thinned out, owing to local prosecutions under the new medical act and the difficulty of evading the law.

Proposed bills for better legislation for public-health purposes were approved by the State Board of Health for introduction into the legislature. Among them were those to provide for a state hospital for consumptives, to provide for the testing of all milch cows supplying milk for sale and use in cities and villages, and a proposed amendment to the local quarantine law, to provide for an annual public meeting under the auspices of the local board of health in each township, city and village. The secretary presented the quarterly report of work done in the office, which shows the number of reports of outbreaks of dangerous communicable diseases, concerning which action was taken by the office, during the quarter, to be as follows: Diphtheria, 180; scarlet fever, 259; typhoid fever, 522; measles, 56; whooping-cough, 41; smallpox, 66; meningitis, 120, and consumption, 364. Total for the eight diseases, 1608.

MINNESOTA.

The library of the late Dr. John H. Murphy, St. Paul, has been presented to the Ramsey County Medical Association by his widow.

The Owatonna City Hospital was formally opened for inspection January 5. The hospital has accommodation for twelve patients, with a maximum capacity of seventeen, and is thoroughly outfitted and equipped. Dr. John H. Adair is president of the advisory board.

The State Board of Health met at St. Paul January 15 and elected the following officers: Dr. Franklin Staples, Winona, president; Dr. Henry Hutchinson, St. Paul, vice-president, and Dr. Henry M. Bracken, Minneapolis, secretary and executive officer. The marked increase in the number of cases of smallpox reported in the past year was the chief subject of discussion at the meeting.

MISSOURI.

Two medical students were arrested and fined $50 each at Kansas City, January 16, for not reporting to the board of health a case of smallpox which they were attending.

A resolution was adopted January 9, concurrently by the house and senate, which provides that these bind themselves to appropriate $10,000 for the use of the State Board of Health. The money is to be used by the board to prevent the spread of smallpox, which is prevalent throughout the state.

A committee appointed by the State Medical Association at its last meeting, is in Jefferson City for the purpose of recommending legislation in the interest of the physicians of Missouri. The members of the committee are: Dr. A. W. McAlester, Columbia; Dr. Eugene L. Priest, Nevada; Dr. Frank J. Lutz, St. Louis; Dr. David C. Gore, Marshall, and Dr. Herman E. Pearse, Kansas City.

The State Board of Health adjourned January 7, after electing Dr. C. B. Elkins, of Ozark, president; Dr. J. T. McClanahan, Boonville, vice-president, and L. C. McElwee, St. Louis, secretary. Dr. S. C. James introduced a resolution rescinding the action of the July meeting of the board in Kansas City in 1899, thus making it necessary for the board to recognize the diplomas of all colleges that matriculated students in 1898, and who graduated at the end of the scholastic year of 1901, and to register or license those graduates of any college having a three-years' course.

NEBRASKA.

The diagnosis of smallpox in St. Edward, made by Dr. Jones, has been confirmed by Dr. S. R. Towne, of the State Board of Health, and quarantine established.

Dr. Victor H. Coffman, health commissioner of Omaha, urges the immediate erection of an emergency hospital properly equipped and provided with adequate police protection.

Senator Trompen introduced a bill in the state senate January 15, which legalizes the practice of osteopathy and declares it not to be the practice of medicine as contemplated by the law governing the practice of medicine.

NEW HAMPSHIRE.

The Dover Hospital was incorporated January 18 by eleven ladies of that city. It is to be a charitable association.

The State Board of Medical Examiners has issued licenses to practice to eighteen applicants who were examined December 11 and 12.

Dr. Gustave Lafontaine, Manchester, whose arrest for practicing without a license was noticed in The Journal and whose defense was his lack of familiarity with English, has passed a satisfactory examination, and has been licensed to practice.

NEW YORK.

Dr. Charles C. Duryee, Schenectady, has been appointed a member of the board of health.

Mr. Cotton has introduced a bill to exempt from taxation the property of medical societies in New York and Buffalo.

The Oswego local health board has ordered a general vaccination of school children and teachers. The schools were ordered closed for two weeks.

The estate of the late J. D. Sarven, Tarrytown, has been appraised. It is estimated that by the terms of his will the Presbyterian and St. Luke's Hospitals will each receive $59,140.

Mr. Bell has introduced into the assembly a bill to so amend the general health law, by more specifically defining who are and who are not lawful practitioners of medicine, that there may no longer be any doubt as to the legal status of faith-healers and other similar impostors.

The State Board of Health reports about 75 cases of smallpox in the state. The most serious outbreaks at the present time are at Watertown and Schenectady, although both are under control. One case at Southold, Suffolk county, and the presence of several at Norfolk, St. Lawrence county, and Northville, Fulton county, were reported to the board.

A week ago it appeared as if the long fight over the site for the State Hospital for Consumptives was at an end, and that Raybrook had been finally chosen. It appears now that another sharp wrangle is to take place in the legislature, as a bill has been introduced to compel the selection of the Dannemore site and the building of the hospital by convict labor on state lands.

Buffalo.

Dr. Nelson G. Russell has resigned the position of district physician, and Dr. Herman de Groat has been appointed from the eligible civil service list in his place.

Major Ira C. Brown, Buffalo, who is in the government service in the Philippines, has been placed in charge of the medical supply depot at Iloilo and of the vaccin farm. He is also the disbursing officer for the department.

The health commissioner has issued a proclamation concerning smallpox, and advises general vaccination. A meeting of the health commissioner and district physicians was held to consider the advisability of general vaccination in all private, parochial and public schools.

New York City.

Dr. Hiram N. Vineberg has been appointed adjunct attending gynecologist to the Mount Sinai Hospital.

Register James R. Howe has given $2500 to the Eastern District Dispensary and Hospital Association, Brooklyn.,

Drs. Austin Flint, Jr., and Edward A. Ayers have resigned as attending physicians of the Mothers' and Babies' Hospital.

William T. Wardwell, president of the Red-Cross Hospital, has given $40,000 toward a fund for the erection of a new hospital.

The mortality of Greater New York for 1900 was 70,716, or 4987 more than for 1899, the mortality per 1000 being 20.53 in 1900 and 19.47 for 1899. There was increase of about 50 per cent. in the deaths from measles: 25 per cent. from typhoid fever; 10 per cent. from diphtheria and croup, and more than 100 per cent. from sunstroke.

Since the first case of smallpox was reported on Nov. 5, 1900, there have been 127 cases, with ten deaths. A death from smallpox occurred in Brooklyn a few days ago, and the certificate was signed by a physician who stated that the cause of death was typhoid fever. Asked by the health department to explain this, he said that he had been in doubt about the diagnosis, and had stated it to the best of his knowledge and belief. He said he had seen over 100 cases of smallpox in Russia.

PENNSYLVANIA.

For the second time since the appearance of diphtheria at Mt. Joy, near Lancaster, the public schools have been ordered closed.

The Lycoming County Medical Society held a special meeting at Williamsport, December 30, at which a committee was appointed to draw up resolutions relative to the death of Dr. Louis Schneider.

Dr. Alice Bennett having withdrawn as a candidate for the position made vacant by the resignation of Dr. Susan Tabor, Dr. Mary Moore Wolfe has been elected resident physician of the Norristown Insane Asylum, at a salary of $1500 a year.

Philadelphia.

A new board of trustees of the Medico-Chirurgical College, composed entirely of laymen, was elected January 16.

At the eighteenth annual meeting of the Alumni Association of the Medico-Chirurgical College the following officers were elected: Dr. John Welsh Croskey, president; Dr. Stillwell C. Burns, secretary, and Dr. S. S. Gans, treasurer.

The annual election of officers of the medical staff of St. Mary's Hospital was held January 15, and resulted as follows: Dr. John J. Moylan, president; Dr. Louis F. Love, vice-president, and Dr. Joseph Ross, secretary. It is believed that the new building of this hospital will be completed early in the present year.

RHODE ISLAND.

Dr. Charles W. Stewart and wife, of Newport, have sailed for Europe, en route to Vienna, where Dr. Stewart will take post-graduate work in surgery.

Diphtheria prevails at the Home for Destitute Children at Bristol, R. I., and nine cases have been reported. One of the city schools has been ordered closed.

The Hopeworth Sanatorium, Bristol, a private hospital for nervous diseases, suffered a $6000 loss by fire January 3. Martha Cottage was burned but the main building was uninjured.

In the case of Dr. Joseph Napoleon Roy, Harrisville, mentioned in The Journal of November 17, the State Board of Health has revoked Dr. Roy's certificate, and he promises to appeal to the Supreme Court and to furnish some interesting revelations as to the political aspect of the affair.

GENERAL.

Sanitary inspectors have recently been placed at the ports of Nanaimo, Chemainus and Ladysmith, on the Pacific Coast of British Columbia, for the purpose of inspecting vessels bound from those ports for San Francisco, to prevent the introduction of smallpox into the latter place.

Steps are being taken by the U. S. Marine-Hospital Service to establish a temporary supplemental quarantine station at Venus Point, S. C., on the Savannah River, for the purpose of intercepting cases of smallpox bound to Savannah from the coast islands of South Carolina, where this disease is said to be very prevalent. Inquiry is also on foot to ascertain the extent of this disease in the islands.

The U. S. Marine-Hospital Bureau recently received a report to the effect that four fatal cases of plague had appeared on a vessel arriving at Shields, England, from the Rio de la Plata. Passed-Asst. Surgeon Thomas, on duty in London, was immediately ordered to this point. He also stopped at Hull, England, to investigate a report of plague on the steamship *Friary*, recently from Alexandria, Egypt, and has reported by wire that five deaths from plague occurred among the crew of this vessel en route, and that no further cases have appeared and that all sanitary precautions have been taken.

The death-rate for December, in Honolulu, was 2.85 per cent., or 112 deaths, 32 of whom were females. Of the deaths among males, 21 were due to consumption. The following were the causes assigned: Malarial fevers, 2; typhoid, 3; diarrhea, 1: infantile diarrhea, 1; dysentery, 2; congenital syphilis, 1: septicemia, 1; inanition, 6; laryngeal, mesenteric and miliary tuberculosis, 1 each, and pulmonary, 17; atelectasis, 1: old age, 5; premature birth, 1; congestion, 7, convulsions, 1: senile dementia, 1; paralysis, 1; diseases of the spinal cord and membranes, 1; beri-beri, 2; valve disease of the heart, 4: asthma, 3; bronchitis, 4: croup, 1; edema of the glottis, 1; pleurisy, 1: pneumonia, 13; pulmonary edema, 1; appendicitis, 1; gastritis, 1; gastro-enteritis, 1; hernia, 1; inflammation of intestines, 5; cirrhosis of the liver, 1; peritonitis, 2; acute nephritis, 1; chronic nephritis, 2; uremia, 1; Bright's disease, 1; metritis, 1; puerperal convulsions, 1; puerperal hemorrhage, 1; accidental fall, 1; crushed by dray, 1; poisons, 2: suicide, 2.

PAN-AMERICAN MEDICAL CONGRESS.

The prospects for a large representation of the medical profession of this country at Havana, at the meeting of this Congress, are very promising. Not only will a large number go from the extreme East, but the West will send good delegations. The latest reports from Havana indicate that the health of the city is quite satisfactory, the danger from yellow fever being practically eliminated. The railroad rates are moderately low, the fare from Chicago to Havana and return being $86, which includes berth and meals on the steamer. Those wishing to go via New Orleans should remember that the Morgan line of boats, which has recently been put into service, leaves on Saturday only. Those who wish to go by this route can leave Chicago by the Illinois Central at 8:30 a. m., Friday, February 1, arriving at New Orleans Saturday, February 2, at 9:35 a. m. The boat leaves two hours later and arrives at Havana on the morning of February 4. For other routes see previous issues of The Journal.

CANADA.

The French-Canadian medical men of the province of Quebec are endeavoring to organize a medical congress of the French practitioners of North America, to be held some time next summer. It is fully expected that the outcome of the congress will be the formation of an association of French practitioners for the whole continent. It is understood that the French practitioners of Louisiana are favorable to the undertaking. There are reputed to be 500 French practitioners in the United States, and a little over 1000 in the province of Quebec.

The relation, if any, between the manholes and the prevalence of diphtheria in Toronto is now going to receive careful investigation and observation on the part of the medical health officer of the city. Dr. Sheard has had prepared a large map of each of his inspectors' districts; and where a case of diphtheria occurs, it will be noted if a manhole is in the neighborhood, and also the class of street pavement. In this way the influence of local conditions will be investigated. It is expected that the scavenging of the city will also soon be placed under the medical department.

Dr. Clarke, superintendent of the Kingston Asylum for the Insane, has been appointed a commissioner to investigate the workings of the asylum at New Westminster, British Columbia.

A movement is on foot to induce the War Office of England to create places for a certain number of Canadian nurses in connection with the medical corps of the British army. A great many young Canadian women are trained at the hospitals here each year, but the field is limited, and it is thought that the war office ought to be able to avail themselves of our nurses, many of whom have shown themselves capable in the South African campaign.

MEDICAL DEFENSE FUND.

The regular meeting of the medical society of the district of St. Francis of the province of Quebec was held on January 11, under the presidency of Dr. Brown, of Richmond, Quebec. The Medical Defense Union of this association is being endorsed by all the medical men in that district, and several Montreal men have expressed a wish to become members. The question of physicians being appointed for fraternal orders was the principal topic of discussion. An effect will be made to do away with the present system of appointments, and the system of allowing each member of a lodge to choose his own physician in time of sickness, the lodge to pay the doctor's bill, substituted in its stead. It was pointed out that in the great majority of cases the lodges paid out more to the appointed physician than if paid under the latter scheme. The doctors of the City of Sherbrooke present decided to call a meeting of all the medical men in that city, and have them enter into an agreement not to accept any regular appointment in lodge except as examining physician. The association will shortly tender a banquet to Surgeon-Major Worthington in recognition of his work in South Africa.

FOREIGN.

The Vienna *Medicinische Wochenschrift* celebrates its semicentennial by a special number, containing "Aphorisms," and congratulations from its numerous friends and collaborators, who testify to its fidelity to the service of the medical sciences and its dignified course through its half century of existence.

The Paris Medical Club gave an entertainment recently in which the music, songs and compositions recited were all by French physicians of the day, many of them popular in wide circles at home and abroad. They were all rendered by professional artists. Among them were Richelot's melodies, Prof. Richet's famous fables, Cazalis' "Mal d'Aimer"—the latter better known by his pseudonym," Jean Lahor"—and Dr. R. Blondel's musical compositions.

MAGNETIC HEALING IN FRANCE.

A recent decision of the supreme court in France is considered a great triumph for the profession, as it is the first organized effort of physicians to put down quackery in that country. It is declared illegal practice of medicine for any one not having been granted a diploma as a physician, to apply magnetism to the treatment of patients. Three years ago the Medical Syndicate at Angers commenced legal proceedings against a magnetic healer, accusing him of the illegal practice of medicine. The charlatan in question treated his patients by making passes over them and applying "magnetized cotton." The local court acquitted the healer and the syndicate appealed. The superior court confirmed the decision that magnetism could not be considered a treatment. The syndicate then appealed to the supreme court, supported morally and financially in its efforts by the Union des Syndicats Médicaux de France, while the magnetic healers in the country formed a powerful combination against them. The decision of the Cour de Cassation, handed down Dec. 30, 1900, states that the treatment of diseases by magnetism is to be considered the practice of medicine and should only be done by medical men. "The syndicate may justly be proud of its perseverance and success," one confrère editorially exclaims, "for if physicians suffer from these practices, the patients suffer still worse—they die."

LONDON LETTER.

THE ANTI-TUBERCULOSIS MOVEMENT.

The anti-tuberculosis crusade, which was begun more than two years ago, has made great progress. In the profession the open-air treatment has come to be regarded as the treatment par excellence. Among the general public, by means of meetings, pamphlets, etc., a great deal of vital information has been diffused as regards the necessity for providing sanatoria and the importance of hygienic measures to prevent contagion. The National Association for the Prevention of Tuberculosis is the mainspring of this movement for enlightening the public and obtaining the support of leading men in the country which is necessary for the success of any reform. A large number of private sanatoria for carrying out the open-air treatment of consumption have now been provided, but for the poorer part of the population who can not afford to pay for such treatment the work of providing it free or at a small cost, though making good progress, is still in its earliest stage. The compulsory notification of consumption is a measure which is certain to be shortly enacted. In the meantime a number of sanitary authorities have adopted a system of voluntary notification. The National Association for the Prevention of Tuberculosis is now issuing to corporations, urban and rural councils, etc., a pamphlet containing suggestions as to voluntary notification and provision of open-air treatment for pauper consumptives. Under the notification system, cases are isolated and insanitary areas and houses are improved. Information is also given as to the cost of erecting sanatoria, disinfection of consumptives' dwellings, and the improvement of cowsheds. A large number of hospitals now provide open-air treatment, either free or at a small charge. Boards of health are now building sanatoria or maintaining beds in existing ones, or adapting special wards in the infirmaries to the open-air treatment. Another outcome of the antituberculosis movement is:

THE BRITISH CONGRESS ON TUBERCULOSIS.

The congress will be opened on July 22, 1901, and will sit from that date until the 26th. Every British colony and dependency has been invited to send delegates, and the governments of foreign countries to send representative men of science, who will be guests of the congress. Consumption and other forms of tuberculosis, though preventable and controllable, cause about 60,000 deaths annually in the United Kingdom. Probably thrice this number of persons are constantly suffering from one or other form of the disease. The object of the congress is to exchange the information and experience gained throughout the world as to methods available for stamping out the disease. Papers will be read and clinical and pathological demonstrations will be given. The museum, which will be a special feature of the congress, will contain pathological and bacteriological collections, charts, models, and other exhibits. Authorities of this and other countries will be invited to supply documents on the historical, geographical and statistical aspects of the subject. As a result of the papers and discussions practical resolutions will be formulated, which will serve to indicate the measures best adapted for the suppression of tuberculosis. The work will be divided into four sections, as follows: Section 1, state and municipal; section 2, medical, including climatology and sanatoria; section 3, pathology, including bacteriology; section 4, veterinary.

DEATHS FROM ARSENICAL BEER.

A record of the inquests held in Manchester alone, respecting deaths supposed to be due to arsenical poisoning from consumption of impure beer, shows in a striking manner the seriousness and extent of the epidemic. Twenty-one inquests have been held; in 8, death was due to arsenical poisoning, in 7, to natural causes, but there were arsenical symptoms; in 2, death was accelerated by the poison. At one of the inquests Dr. Reynolds, visiting physician to the Manchester workhouse, to whom is due the credit of discovering the cause of the outbreak of peripheral neuritis in Manchester, gave evidence as to how he arrived at his conclusion, which is most interesting as an example of sound medical reasoning. He observed that herpes occurred in some of the cases of peripheral neuritis. He therefore concluded that the herpes and the neuritis were due to the same cause. Now, the only drug which he knew produced herpes was arsenic. He, therefore, concluded that the patients must be taking arsenic in some way. As the only common factor was the beer he suspected that was the source, and on analysis found that it contained arsenic. In one of the fatal cases of arsenical poisoning the lungs were dropsical and the liver was much enlarged and in a condition of chronic inflammation. But no traces of arsenic could be found in the viscera. In another case an appreciable quantity of arsenic was found in the liver, kidneys and heart. Two deaths from arsenical poisoning have occurred at Liverpool.

THE RELATION OF MASTITIS TO TUMOR FORMATION.

At the Pathological Society Mr. F. T. Paul read an important paper on this subject. He said that the tendency of chronic mastitis to end in tumor formation had more impressed him every year. Cancerous breasts almost constantly showed microscopic changes indicating preceding chronic mastitis, and breasts removed for simple chronic mastitis frequently presented appearances suggestive of the commencement of cancer. This *same* was true of innocent tumors, even of those of early life. "Involution mastitis" commenced as a chronic interstitial inflammation and passed into a cirrhotic state, accompanied by cystic alterations in the acini and generally by considerable increase in the gland elements. At the stage of involution in some cases resolution took place; in others the irritation continued. especially in the peri-acinous connective tissue and after prolonged stimulation might end in the growth of a fibroadenoma. In other cases or in other parts of the same organ the epithelium responded chiefly, and intracystic papilloma or carcinoma might originate. He concluded that the association of chronic mastitis with adenoma in early life and with cystic and other varieties found later, its almost constant presence in conjunction with cancer, the marked bilateral mastitis which preceded bilateral cancer, and the appearances seen under the microscope in chronic mastitis, taken in conjunction with clinical experience, showed that chronic mastitis. if not the immediate. is at any rate the frequent, predisposing cause of tumor change and renders excision desirable in all marked or inveterate cases.

Marriages.

Otis Higgins, M.D., to Miss Blanche Dicks, both of Lebanon, Ind., January 9.

Charles A. Kearney, M.D.. Farley, Iowa, to Miss Caroline Freeman, December 25.

Greene D. McCall, M.D., Fulton, Mo., to Miss Annie Baskett, Mexico, Mo., January 9.

H. Frank Preston, M.D., Utica, N. Y., to Mrs. Anna McFarland, Altoona, Pa.. November 7.

G. Duffield Stewart, M.D., Detroit, Mich., to Mrs. Katharine Fletcher, Mt. Clemens, January 3.

Jacob S. Green, M.D., Alameda, Cal., to Miss Gertrude Bialoglowski, Oakland, Cal., January.

Thomas C. McNamara, M.D., Hoboken, N. J., to Miss Minnie Eloise Gallagher, Brooklyn, N. Y., January 23.

John H. Burkhalter, M.D., U. S. M.-H. Service, Mobile, Ala.. to Miss Lillian Johnson, Thomson, Ga., January 2.

John S. Meserve, M.D., Dover, N. H., to Miss Edith Conner, daughter of Dr. Phineas S. Conner, of Cincinnati, January 1.

B. F. Sandow, M.D., government physician, Waimea Kauai, Hawaiian Islands, to Miss Eula Elston, Berkeley, Cal., January 1.

John B. Dennis, M.D., ensign U. S. navy, stationed at Philadelphia, to Miss Adelaide A. Ware, of Fortress Monroe. January 8.

Deaths and Obituaries.

Charles Wesley Purdy, M.D., Queen's University, 1869; Honorary Fellow of the Royal College of Physicians and Surgeons of Ontario, 1888; LL.D., 1898, Queen's University, Kingston, Ontario, died January 20 from uremia, at his home in Chicago, aged 54. He was born in Collins Bay near Kingston, Ontario. and took his academic course in Victoria University, Montreal. He practiced for two years in Hastings, Ontario, and then came to Chicago. He was successively house physician at the Grand Pacific and Auditorium Hotels until 1893, when he moved to his home on Twentieth street, in which he lived thereafter. For many years he had made diseases of the kidney his specialty, and was an accepted authority on this branch of medicine and on analysis of urine. His contributions to the literature on these subjects are numerous and valuable. His work on *uranalysis*, which has gone through several editions, is a standard; and his text-books on Bright's disease and diabetes are also considered authoritative. He was a member of the faculty of the Post-Graduate Medical School of Chicago from its organization, for several years, but never enjoyed didactic teaching, preferring to make laboratory researches and to publish their results. He was a member of The American Medical Association, British Medical Association, Illinois State Medical Society and Chicago Medical Society, and was a charter member of the Chicago Society for Internal Medicine. He was an indefatigable worker, and several months ago suffered from nervous prostration, attended by *insomnia*, etc. He went away for rest and recuperation, but without avail. He returned from Alma, Mich., on January 15. Three days later he was taken ill, and on the morning before he died, passed into a comatose condition from which he did not rally.

Benjamin F. Swafford, M.D., for many years a prominent physician and surgeon of Terre Haute, Ind., died at his home in that city January 8, of diabetes, aged 67. He was graduated from Rush Medical College in 1858, and was prosector to the chair of anatomy during the years 1857-1858. At the outbreak of the Civil War he entered the service as surgeon of the Eleventh Indiana Cavalry, and later had charge of Field Hospital No. 1 at Eastport, Miss., until May, 1865. He then entered civil practice at New Goshen, Ind., removing to Terre Haute in 1874, where he continued to practice until his death. He enjoyed a large, successful and lucrative practice and was one of the leading medical men of the country. He was a member and ex-president of the Vigo County Medical Society. a member of the Aesculapian Society of the Wabash Valley, and for years an active member of the Indiana State Medical Society and of The American Medical Association

David N. Rankin, M.D., *Jefferson* Medical College, Philadelphia, 1854, an old and honored member of The American Medical Association, State and County Medical Societies, and of the Laryngological Association: a delegate to the Berlin Congress in 1890; a surgeon of the volunteer army in the Civil War, and prominent alike socially and *professionally in* Allegheny, from pneumonia, after an illness of three weeks, at his home, at Shields Station, Pa., January 1.

Lieut. Louis P. Smith, assistant-surgeon U. S. A., College of Physicians and Surgeons, N. Y., from septicemia following an operation for appendicitis at the First Reserve Hospital, Manila, P. I., January 8, aged 30. Dr. Smith was the first medical officer to land in Cuba, and built the first shore hospital. In November, 1899, he sailed for the Philippine Islands and was acting brigade surgeon at Dagupan.

Wilbert K. Sloan, M.D., College of Physicians and Surgeons. Keokuk, Iowa, 1875, a prominent physician and *citizen of* Moline, Ill., a member of the local, state, Illinois-Iowa district societies and of The American Medical Association, and for twelve years a member of the board of education, at his home. January 1, from intestinal tuberculosis, after a lingering illness, aged 53.

Benjamin Franklin Leonard, M.D., University of Maryland, 1876, a member of the staff of the Maryland General Hospital, surgeon to the Hebrew Hospital and Asylum, and a member of The American Medical Association, at his home in Baltimore, from pneumonia, after an illness of six days. April 10, 1900, aged 53.

Cyrenius C. Powell, M.D., Albany (N. Y.) Medical College, 1864, one of the most prominent physicians of Southeastern Iowa, at his home in Ottumwa, January 6, from septic infection, after an illness of three weeks. The Wapello County *Medical Society*, at a special meeting, January 8, adopted resolutions of sympathy.

Robert A. Truxillo, M.D., Kentucky School of Medicine, Louisville, 1891, of Assumption Parish, La., from smallpox. contracted while in charge of the Levee Convict Camp on the east bank of Bayou Lafourche, January 7.

Henry Foster, M.D., Western Reserve University, Cleveland. Ohio, 1848, proprietor of the Clifton Springs Sanatorium, at his home in *Clifton* Springs, N. Y., suddenly, *from* heart disease, January 15, aged 79.

Isaac Newton Thacker, M.D., Ohio Medical College, 1840. a pioneer in medicine *in Ohio* and for nearly half a century an active practitioner, from paralysis, *at* his home in Defiance. Ohio, January 8, aged 89.

H. G. Tope, M.D., surgeon of the Eightieth Ohio Infantry in the Civil War, and since that time in practice at Lamartine, Ohio, at his home in *that place*. *December* 25, aged 62.

James Henderson Hale, M.D., Vanderbilt University, Nashville, Tenn., 1892, from a bullet-wound accidentally received, at his home in Osceola, Ark., January 9, aged 30.

George Schlagenhauf, M.D., Washington University, St. Louis, 1875, from heart disease, after a long illness, at his home, Altamont, Ill., January 9, aged 53.

James P. Epes, M.D., University College of Medicine, Richmond, Va., 1898, in New York City after an operation for appendicitis, January 11, aged 30.

Nathaniel S. Sievers, M.D., University of Pennsylvania, 1867, at his home in Salem, N. C., after an illness of several years, January 12, aged 60.

William P. Connally, M.D., Tennessee Medical College, Knoxville, 1894, of Atlanta, at Abilene, Texas, from consumption, January 13, aged 26.

Adolphus J. Dennis, M.D., Kansas City Medical College, 1900, from consumption, January 5, at St. Joseph's Hospital, Kansas City, aged 23.

Charles B. Borden, M.D., Bellevue Hospital Medical College, New York, 1877, from pneumonia, January 9, at his home in Stamford, Conn.

Horace Halbert, M.D., University of Buffalo, N. Y., 1851, at his home in Canastota, N. Y., January 11, after a long illness.

Albert H. Snead, M.D., College of Physicians and Surgeons, N. Y., 1858, at his home in Waco, Texas, January 8, aged 63.

William A. Wright, M.D., University of Nashville, Tenn., 1857, at his home in Rives, Tenn., January 10, aged 75.

Correspondence.

Self-Castration.

Camden, N. J.

To the Editor:—Emil L., a young white man, was brought to the Cooper Hospital about midnight of September 26. A couple of hours previously he had castrated himself, removing the entire scrotum. When he came into the hospital his appearance indicated that he had lost considerable blood, and the severed vessels were still bleeding. Examination revealed that the scrotum had been amputated close to the urethra, and the spermatic cords were retracted into the external abdominal rings. The vessels of the cords were ligated and the cutaneous flaps of the wound were sutured in the median line. A week subsequently the wound had healed by first intention; and when cicatrization and contraction are complete there will remain only a median raphe, in close contact with the penis.

For a day or two after admission the man was reticent, and it was difficult to induce him to speak of the act or of the causes that impelled him to it. But, later, he became more communicative, and in describing his operation he said he first tied a cord around the scrotum, above where he intended to cut, believing this was necessary to save him from a dangerous loss of blood. He then seized the scrotum and testicles in his left hand, and with a razor cut from above downward, with a sawing motion, severing successsively all the structures. He said the "tendons" were more difficult to cut than the skin; that there was not much bleeding at first, but it became more severe in a few minutes. When asked if he was not tempted to abandon the procedure when he felt the pain of the cut, he replied that the pain was not very great, and he thought the flow of blood tended to prevent much suffering. He observed that the cord placed around the scrotum to prevent bleeding did not remain in position after the parts were severed, and to this fact he attributes the greater flow of blood that subsequently ensued. To the remark that he might have amputated the penis in his haste, he laughingly replied that he was careful not to do that.

A native of Switzerland, 27 years of age, he has resided in this country fourteen lears; a florist by occupation. His father, six brothers and three sisters are living, his mother dead, the cause of her death unknown. From his description the members of his father's family were probably of a melancholy temperament and easily excited. Concerning himself, he says he was always despondent, that his employers did not use him right; that he was nervous, and his memory poor. He always had some pain in his testicles, and frequently pain in the back. He never practiced masturbation; never had sexual intercourse, and never experienced strong desire for it. Involuntary emissions occurred at intervals of a month or six weeks, with the result that the pain in the back and testicles became less severe for a short period. Socially, he was always a recluse, and never associated with the opposite sex.

When questioned as to the immediate motive that prompted him to mutilate himself, he replied that it was because of the pain he experienced, and he thought by this means to obtain relief. He felt that his lack of success in life and his inability to please were due to the condition of his sexual organs, and he hoped by removing the offending members to obtain relief from the various influences that made him unhappy and a constant sufferer. He further said he had for years meditated on the desirability of removing the testicles in certain individuals, to prevent the transmission of undesirable traits to posterity. He had no knowledge of the Skopzi, and is not familiar with the practices of that sect.

On the seventh day following the removal of the testicles an involuntary seminal emission occurred, during sleep, but was unattended with a lascivious dream; it caused him to awake immediately. The stain on the linen was examined ten hours later, and presented all the characteristics of dried semen. Washed with dilute acetic acid, a slide was moistened with the resulting mixture, and the microscope revealed the presence of spermatozoa, but not in large quantities, there being, on an average, three to five in the field of observation. Following the emission, there was considerable pain in the wound.

The testicles, wrapped in a handkerchief, were taken with the patient to the hospital. They were of normal size and consistency, and minute inspection reveals that they were free from disease.

Daniel Stroch, M.D.

Comments on Dr. Deaver's Article "Walled Off."

Melton, Del., Jan. 19, 1901.

To the Editor:—Dr. Deaver's article in The Journal of A. M. A., of January 5, is interesting as well as instructive. We all appreciate an early diagnosis as much as early treatment, and his statement "Let me insist that you have your cases of appendicitis operated on, yes, immediately after the onset of the initial pain," seems rather strong. For my own benefit and also for a large number of the profession, we would like the Doctor to give us the symptoms of the initial pain, its character and location. The symptoms of appendicitis are so varied and deceptive that I am sure many hesitate to operate, owing to the fact of being unable to arrive at an early positive diagnosis. We are inclined to think that should the Doctor's advice be taken many abdomens would be opened and normal conditions in relation to the appendix be found. I appreciate very much the Doctor's article and am not writing in the spirit of criticism, but as a seeker after truth, appreciating, as the Doctor does, the value of an early operation if one is necessary, but seeking for infallible signs whereby one may not err in an early diagnosis. Could we be as positive of the symptoms and physical signs of appendicitis as we are of empyema or pleurisy with effusion then we would not hesitate to follow the advice. Every physician feels a great responsibility resting upon him when called to cases in which the symptoms are indicative of appendicitis—to operate or not to operate is the question. He asks: Am I warranted in subjecting the patient to the dangers of an operation while some doubt exists in regard to the diagnosis? We believe in many cases it is impossible to make an early diagnosis unless the abdomen be opened. The Doctor's advice may apply very well to hospital, but the same can not always be carried out in private, practice. For the sake of diagnosis are we justified in opening the abdomen if no diseased appendix is found? . . . Many will frankly admit that they can not make a diagnosis of appendicitis in its early stage, and while having read all the literature at my command on the subject I admit I could make a better diagnosis after the abdomen was opened than before. We would like to hear from the Doctor again on the early symptoms and positive diagnosis of the disease.

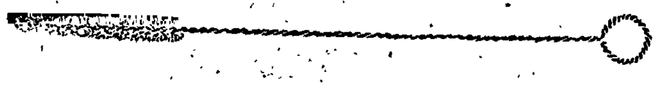
R. B. Hopkins, M.D.

New Instruments.

A New Method of Cleaning the Cervical Canal.

GEORGE W. NEWTON, M.D.
Professor of Gynecology, Chicago Clinical School; Instructor in Gynecology, College of Physicians and Surgeons; Attending Gynecologist, West Side Hospital.
CHICAGO.

The difficulty experienced in trying to remove the secretion from the cervical canal before making applications thereto caused me to seek other methods than theories heretofore advised. I had a brush made as shown in the cut and the ease with which the canal can be cleaned is really surprising. It does its work perfectly, and removes equally as well the thick, yellow, gelatinous gonorrheal plug as it does one of the hematogenous variety of endocervicitis. The brush is cylindrical in shape, 1½ in. long, ¼ in. in diameter, tapering to 3/16 in. If the patient is a nullipara and has a small cervical canal a smaller brush should be used. With a pair of scissors it is a simple matter to trim the bristle off to any size desired. Several sizes should be kept on hand; as they are very inexpensive the cost is a matter of small consideration. The brush is inserted into the cervical canal to the internal os, revolved once or twice and then withdrawn, and the membrane lining the canal will be clean. The discharge becomes entangled in the meshes of the brush and adheres to it as it is withdrawn. To clean the brush hold it under running water for a few moments. It can be sterilized in the usual manner. Although simple, this brush will be found to be a very useful instrument. The uselessness of applications to the cervical canal is often due to the fact that the medicament is not applied to the membrane but to discharge which filled the canal and which it was impossible to remove. Five cases of gonorrheal endocervicitis have been practically cured by applications to the canal after first cleaning the membrane by my brush. These brushes may be obtained at the instrument shops.

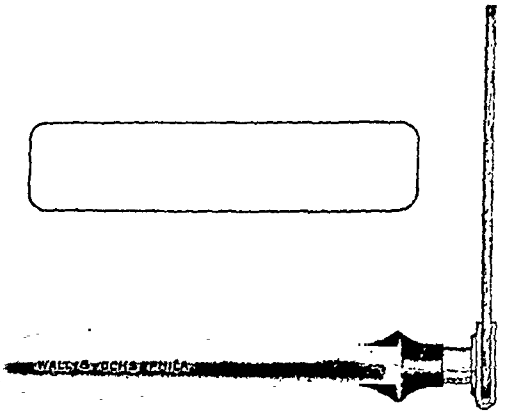


A New Tongue-Depressor.

G. ALVIN HILL, A.M., M.D.
PHILADELPHIA.

Any metallic tongue-depressor, however carefully made, will, after a time, become unsightly from the wearing off of the plating, and no amount of cleaning will give it the appearance of being clean; so fastidious patients are very apt to look askance at it. Another annoying objection to all instruments made of metal not corrugated or roughened is their tendency to slip backward or sidewise on the tongue, causing irresistible gagging and a necessary pause in one's examination or operation, not to mention a less docile state of that member afterward.

With the instrument here described these unpleasant features are entirely obviated. The spatula is of hard, nicely finished wood, which, on being placed on the tongue, adheres to it, so that considerable forward traction can be made and thus effectually draw the base of that organ away from the fauces, allowing more room for inspection or such applications as may be desired. After use, it is removed from the handle and thrown away or laid aside and a fresh one used for the next patient who, seeing this procedure, is impressed with the cleanliness of the operator and not infrequently comments on it. These little slips of wood are cheap and easily obtained from the makers. It is generally my custom, however, after using a few dozen of them—rejecting all that have become stained by drugs, such as silver or iodin—to scrub them in soap and water and then subject them to a vigorous boiling for a half hour or more, and after rinsing in clean water allow them to dry, when it will be found that they are as perfect as at first and even whiter.



There can be no question as to their cleanness and aseptic condition after this treatment.

The adhesion to the tongue, the freedom from liability to gag the patient, and their clean and aseptic quality so satisfactory to both physician and patient are the chief merits of this instrument.

Miscellany.

The Support of Medical Societies.—At the beginning of the New Year and at the beginning of the new century we extend to our readers and friends a cordial greeting and offer them our best wishes for prosperity and happiness. In our last issue we called attention to a few of the unsolved problems in medicine, the solution of which we expressed the belief would be accomplished in the near future. We desire at this time to call attention to a matter which we have frequently urged before, and the importance of which to the welfare of the profession of medicine is so great that no apology is needed for bringing it up again. We refer to the proper and complete organization of the profession through its medical societies. Every reputable physician should belong to three medical societies—his county society, his state society, and the AMERICAN MEDICAL ASSOCIATION. In many country districts the counties are not populous enough to support a county medical society, but there is usually a district society, which takes its place. The county societies should be, and usually are, auxiliaries of the state society, and all of the state societies are auxiliary to the AMERICAN MEDICAL ASSOCIATION. We have, then, an ideal scheme for perfect and complete organization, and there is only lacking a sufficient appreciation on the part of many individuals in the profession of the importance of becoming a part of this organization, and thereby increasing its power; and this increase in power means a direct benefit in many ways to every practicing physician. An ideal method of organization, but one which is perhaps not practical in such a large country as this, would be to have the AMERICAN MEDICAL ASSOCIATION become the veritable parent society and have membership in the association convey membership in the state and county societies; the dues all being paid to the Association and a proper adjustment made through its treasurer to provide for the expenses of the local societies. Ten dollars a year would undoubtedly be a sufficient membership fee, to include all the expenses and to furnish each member with one of the best weekly medical journals in the world. There are in Minnesota not far from fifteen hundred reputable practicing physicians who are eligible to membership in the AMERICAN MEDICAL ASSOCIATION and in the Minnesota State Medical Society. Of this number less than five hundred, not 33 per cent., are members of the state society, and only about two hundred, or less than 14 per cent. belong to the National Association. These percentages seem ridiculously low, and, yet we believe the figures will be found about the same in other states. The St. Paul meeting of the AMERICAN MEDICAL AS-

SOCIATION next June will, we hope, be marked by a large accession to its membership by members of the profession in Minnesota, and we also hope that many of them will take the opportunity to join the state medical society, which meets in St. Paul at the same time. It seems hardly necessary to rehearse these advantages, both to the individual physicians and to the profession as a whole, which result from membership in and from the general support of, the representative medical societies. We believe that most medical men recognize and appreciate these advantages, and yet many of them—from perhaps carelessness, procrastination or from some other equally inexcusable reason, or for no reason at all—do not join these societies, and by their failure to do so they deprive the profession to which they belong of the support which it has a right to expect from every one of its members. We urge every one of our readers, who is thus derelict in his duty, to delay no longer, but to make application at once for membership in the AMERICAN MEDICAL ASSOCIATION, and then to begin to make his plans to attend the St. Paul meeting. The requisites for membership are very simple and to those who do not know what they are we shall be very glad to furnish the necessary information. We would add that as the fiscal year of the Association begins in January, the present month is the most convenient time to join and to begin to receive THE JOURNAL with the commencement of the first volume of the 20th century. —*St. Paul Med. Journal.*

Observations on Diseases in the Tropics.—Major Charles F. Mason, surgeon, 26th U. S. Vol. Infantry, in a report to the Surgeon-General of the Army, tabulates the results of his experiences in Porto Rico and the Island of Panay as follows:

	In Porto Rico.	In Panay.
Filariasis	common in natives	rare or absent
Ankylostomiasis	common in natives	rare or absent
Chiggers	common in soldiers	rare or absent
Syphilis	common in natives and soldiers	rare or absent
Malarial fevers	common in soldiers	uncommon
"X" fever	common in soldiers	rare or absent
Beri-beri	rare or absent	common in natives
"Y" fever	rare or absent	common in soldiers

The fever which he calls X, as denoting his ignorance of its nature, was evidently specific. It began suddenly with chilly sensations, high fever, nausea and frequent vomiting, constipation and headache. In five to seven days the temperature fell to normal with slow pulse, jaundice and albuminuria. The patients appeared very sick but always recovered. "Y" fever occurred in Panay epidemically at the end of the dry season. It also was evidently specific, beginning abruptly with chilly sensations, headache, rheumatic pains and high fever, which ended by crisis with profuse sweating and marked weakness. There was no eruption, no secondary fever, no jaundice. The patients recovered, convalescence being often attended with obstinate neuralgia. This was often called dengue, but it frequently occurred in patients only recently recovered from an attack of the latter disease. Dysentery prevails in Panay throughout the year, but with a marked increase in the number and severity of the cases at the beginning of the rainy season, which reaches its maximum about the end of August. It is by far the most serious disease which attacks the white soldier in the tropics, both as regards its mortality and its invaliding effects. Out of 32 deaths from disease in the 26th U. S. Vol. Infantry during its first year of service in the Philippine Islands, 10 were from dysentery and its complications and 10 more from typhoid fever. Boils, abscesses and leg ulcers are very common, the latter especially during campaign when it is impossible to keep the underclothing clean; though not dangerous to life these seemingly trifling ailments put a large number of men out of service temporarily and correspondingly swell the sick report. Suppurative inflamation of the middle ear with perforation of the drumhead is of frequent occurrence; it is insidious in its commencement, often deafness and a sudden discharge of pus being the first symptoms noticed; upon examination an acute catarrhal pharyngitis is usually found.

Societies.

COMING MEETINGS.

Medical Society of the Missouri Valley, Omaha, Neb., March 21, 1901.

Medical Society of the State of New York, Albany, Jan. 29-31, 1901.

Pan-American Medical Congress, Havana, Cuba, Feb. 4, 1901.

Tri-State Medical Association of the Carolinas and Virginia, Richmond, Va., Feb. 26, 1901.

The Associated Health Authorities and Sanitarians of Pennsylvania, Harrisburg, Feb. 6-7, 1901.

THE GOLDEN BELT MEDICAL SOCIETY held its midwinter meeting at Abilene, Kan., January 9, and elected Dr. James R. Crawford, Salina, president, and Dr. Samuel W. Shenck, Solomon, secretary.

THE ORANGE COUNTY (Cal.) MEDICAL SOCIETY met January 2, and elected Dr. Howard S. Gordon, Westminster, president; Dr. Francis M. Bruner, Santa Ana, vice-president, and Dr. John L. Dryer, Santa Ana, secretary.

THE ST. JOSEPH (Mo.) MEDICAL SOCIETY, at its January 8 meeting, elected Dr. John M. Bell, president; Dr. Thompson E. Potter, vice-president; Dr. Wallace B. Deffenbaugh, secretary, and Dr. Perry P. Fulkerson, treasurer.

THE PASADENA (Cal.) MEDICAL SOCIETY held its annual meeting January 9. Dr. George E. Abbott was elected president; Dr. Henry H. Sherk, vice-president, and Dr. John E. Jones, re-elected secretary and treasurer.

THE JACKSON COUNTY (Ala.) MEDICAL SOCIETY held its annual meeting at Scottsboro, January 5, and elected Dr. James W. Knowlton, Paint Rock, president and county health officer, and Dr. William C. Mapes, Scottsboro, vice-president.

THE NEW HAVEN (Conn.) MEDICAL SOCIETY held its annual meeting January 2, and elected Dr. Frank H. Wheeler, president; Drs. Jay W. Seaver and Frederick Bellosa, vice-presidents, and Dr. Alfred G. Nadler, secretary and treasurer.

THE BAY COUNTY (Mich.) MEDICAL SOCIETY met at Bay City, January 14, and elected Dr. Henry B. Landon, president; Dr. John W. Coughlin, vice-president; Dr. Morton Gallegher, secretary, and Dr. Charles H. Baker, treasurer, all of Bay City.

THE LAWRENCE COUNTY (Ala.) MEDICAL SOCIETY elected Dr. C. S. Chenault, Mount Hope, president; Dr. Edgar T. Simms, Hettsboro, vice-president, and Dr. William J. McMahon, secretary and county health officer, at its January 9 meeting.

THE CAMDEN CITY (N. J.) MEDICAL SOCIETY, at its meeting January 9, elected Dr. Joel W. Fithian, president; Dr. W. A. Casperson, vice-president; Dr. Sylvan G. Bushey, secretary; Dr. William H. Pratt, treasurer, and Dr. Joseph H. Willis, librarian.

THE WINNEBAGO COUNTY (Ill.) MEDICAL SOCIETY held its annual meeting in Rockford, January 8, and elected Dr. Thomas N. Miller, president; Dr. Paul L. Markley, vice-president, and Dr. Sanford R. Catlin, secretary and treasurer, all of Rockford.

THE MANITOWOC COUNTY (Wis.) MEDICAL SOCIETY held a meeting January 15, at which the following officers were elected: Dr. William G. Kemper, Manitowoc, president; Dr. Louis Falge, Reedsville, vice-president, and Dr. Herbert Thurtell, Manitowoc, secretary.

THE AUGUSTA (Ga.) MEDICAL SOCIETY held its annual meeting January 8, and re-elected Dr. Theodore E. Oertel, president; Dr. William Z. Holliday, vice-president; Dr. W. Clifton Lyle, secretary; Dr. Eugene E. Murphey, treasurer, and Dr. Louis W. Fargo, librarian.

THE NASHUA (N. H.) MEDICAL ASSOCIATION held its annual meeting, January 8, and elected Dr. Herbert L. Smith, president; Drs. Sam S. Dearborn and Augustus Guertin, vice-presidents; Dr. Charles E. Congdon, treasurer, and Dr. Ella Blaylock Atherton, secretary.

THE BALTIMORE MEDICAL AND SURGICAL ASSOCIATION, on January 14, elected the following officers for the ensuing year: Dr. Charles G. Hill, president; Drs. Edward E. Gibbons and E. B. Tenby, vice-presidents; Dr. Eugene Lee Crutchfield, secretary, and Dr. D. Z. Dunott, treasurer.

THE CLINTON COUNTY (Ia.) MEDICAL SOCIETY held its annual meeting at Talladega, January 8, elected Dr. Benjamin B. Fairchild, Jr., was elected president; Dr. Edward L. Martindale, vice-president; Dr. David T. Nicoll, secretary and treasurer, and Dr. Christian Jonsson, librarian.

The Talladega County (Ala.) Medical Society, at its annual meeting at Talledega, January 8, elected Dr. Benjamin B. Simms, president; Dr. Jason S. McCants, vice-president;. Dr. William G. Harrison, secretary and county health officer, and Dr. Eugene P. Cason, treasurer, all of Talladega.

The Alameda County (Cal.) Medical Society, on January 8, elected Dr. Hubert N. Rowell, Berkeley, president;. Dr. Edmund J. Overend, Oakland, vice-president; Dr. Myra W. Knox, Oakland. secretary; Dr. Carl R. Krone, Oakland, treasurer, and Dr. Edward N. Ewer, Oakland, librarian.

The Tulare County (Cal.) Medical Society met in Visalia, January 3, and elected Dr. Alexander L. Wilson, Tulare, president; Drs. Harley P. Mathewson, Visalia, and Robert E. L. Morton, Dinuba, vice-presidents: Dr. Thomas J. Patterson, Visalia, secretary, and Dr. F. A. Combs, Visalia, treasurer.

The Elkhorn Valley (Neb.) Medical Society met at Norfolk, January 9, and elected Dr. P. H. Salter, Norfolk, president; Drs. John P. Gilligan, O'Neill, and H. L. Kindred, Meadow Grove, vice-presidents; Dr. Archibald L. Muirhead, Winside, secretary, and Dr. William H. H. Hagey, Norfolk, treasurer.

The Hartford (Conn.) Medical Society, at its annual meeting, January 7, elected Dr. George R. Shepherd, president; Dr. William M. Hudson, vice president; Dr. Joseph E. Root, secretary; Dr. George N. Bell, assistant secretary; Dr. George K. Welch, treasurer, and Dr. Frederick T. Simpson, librarian.

The Jackson County (Ia.) Medical Society held its annual meeting at Maquoketa, January 15, at which Dr. George O. Johnson, Maquoketa, was elected president; Dr. John C. Dennison, Bellevue, vice-president; Dr. James O. Ristine, Iron Hills, secretary, and Dr. Willis A. Scott, Maquoketa, treasurer.

The Omaha Medical Society elected officers January 8 as follows: Dr. Byron B. Davis, president; Drs. Gertrude Cuscaden and Rufus D. Mason, vice-presidents; Dr. Joseph M. Aikin, secretary; Dr. Millard Langfeldt, treasurer, and Drs. Harry M. McClanahan, Benjamin F. Crummer and Andrew B. Somers, board of censors.

The York County (Maine) Medical Society met at Biddeford, January 10, and elected the following officers: Dr. Ambrose H. Weeks, Bar Mills, president; Drs. Henry I. Durgin, South Eliot, and Charles W. Blagden, Sanford, vice-presidents; Dr. Lawrence E. Willard, Saco, secretary, and Dr. J. Starr Barker, Kennebunk, treasurer.

The Kalamazoo (Mich.) Academy of Medicine met in annual session January 11. Dr. Herman H. Schaberg was elected president; Dr. Charles H. McKain, Vicksburg, first vice-president; Dr. Orrin F. Burroughs, Galesburg, second vice-president; Dr. Herman Ostrander, Kalamazoo, secretary, and Dr. Edwin H. Van Densen, librarian.

The Doctors' Club met at Newark, N. J., January 11, and elected the following officers: Dr. Katherine Porter, Orange, president; Dr. Ella Palmer, Jersey City, vice-president; Dr. Isabel M. Geddes, Newark [illegible] retary; Dr. Mary D. Hussey, East Orange, [illegible], and Dr. Augusta M. Madison, Newark, treasurer.

The Marion County (Ind.) Medical Society held its annual meeting in Indianapolis, January 7, and elected the following officers: Dr. Lehman H. Dunning, president; Dr. George H. F. House, vice-president; Dr. Theodore Potter, secretary; Dr. Fred L. Pettijohn, assistant secretary, and Dr. Simon P. Scherer. treasurer, all of Indianapolis.

The Montgomery County (Pa.) Medical Society, at its meeting January 10, elected the following officers: Dr. Percy M. Corson, Plymouth Meeting, president; Drs. George M. Stiles, Conshohocken, and J. Newton Hunsberger, Skippack, vice-presidents; Dr. Harry H. Whitcomb, Norristown, secretary, and Dr. S. Nelson Wiley, Norristown, treasurer.

The Philadelphia Medical Club held its annual meeting January 11 and elected the following officers: Dr. Edward L. Duer, president; Drs. John B. Deaver, Philadelphia, and Edward Marvel, Atlantic City, N. J., vice-presidents; Dr. Guy Hinsdale, secretary; Dr. F. Savary Pearce, treasurer, and Dr. James M. Anders, member of the board of governors.

The Schuylkill County (Pa.) Medical Society held its meeting in Pottsville, January 8, and elected the following officers: Dr. Alexander L. Gillan, Pottsville, president; Dr. Joseph P. Morris, St. Clair, vice-president; Dr. George W. Farquhar, Pottsville, secretary; Dr. David Taggart, Frackville, treasurer, and Dr. J. Spencer Callen, Shenandoah, censor.

The Madison County (Ala.) Medical Society discussed the smallpox situation at its meeting, January 8, at Huntsville, and elected the following officers: Dr. James L. Darwin, Huntsville, president; Dr. William D. Pettus, Rap, vice-president; Dr. Edgar Rand, Leighton, secretary and treasurer, and Dr. William C. Wheeler, Huntsville, county health officer.

The Georgia Medical Society, of Savannah, elected the following officers at its annual meeting, January 8: Dr. Thomas P. Waring, president; Dr. John A. Crowther, vice-president; Dr. Charles B. Lanneau, recording secretary; Dr. Arthur A. Morrisson, corresponding secretary; Dr. James G. Van Marter, Jr., librarian, and Dr. John S. Hawkins, treasurer.

The Androscoggin County (Maine) Medical Association met January 8 at Lewiston and elected Dr. Oliver A. Sprague, Turner, president; Drs. Edgar F. Conant and E. A. McCollister, Lewiston, vice-presidents; Dr. Richard R. Ricker, treasurer; Dr. Anson A. Cobb, Auburn, recording secretary, and Dr. Benjamin E. W. Cushman, Auburn, corresponding secretary.

The Orange Mountain (N. J.) Medical Society held its annual meeting at Montclair, January 4, and elected the following officers: Dr. Wellington Campbell, Short Hills, president; Dr. Francis J. E. Tetrault, Orange, vice-president; Dr. Richard D. Freeman, South Orange, secretary; Dr. Carl Buttner, Orange, treasurer, and Dr. Henry A. Pulsford, South Orange, reporter.

Chicago Academy of Medicine.

Regular Meeting held Dec. 14, 1900.

Dr. William A. Evans in the chair.

The topic for discussion was "Pregnancy," which was considered from various standpoints.

PHYSIOLOGIC AND FOLK-LORE ASPECTS OF PREGNANCY.

Dr. H. C. B. Alexander said that the most important phase of the physiology of pregnancy proper coming under the domain of the topic assigned is that which relates to the physiologic increase of woman's functions during pregnancy, and that which pertains to the resultant perturbations of the organs leading to autointoxications. The pregnant woman has regained in part the child's power of cell reproduction without the child's power of eliminating the waste consequent on cell reproduction. To increase the first, without decreasing the mother's future strength after childbirth, and to decrease the second, without affecting the first, are the two problems presented to the obstetrician by the disturbances of woman's physiologic equilibrium from pregnancy.

THE MUTUAL INFLUENCES OF PREGNANCY AND THE INFECTIOUS AND CONSTITUTIONAL DISEASE.

Dr. Robert B. Preble discussed this subject, and said it is usually considered from three standpoints, the influence of pregnancy upon the disease, the influence of the disease upon pregnancy, and the influence of the disease upon the fetus. The last aspect is the only one about which we have new information, for it is only recently that any attention has been given to this view of the question. Feré for some time has been making a series of interesting studies upon the influence of various agents on the chick embryo. He has exposed the egg in the incubator to alcohol, ether, tobacco and various other toxic bodies, including a variety of the bacterial toxins. In this way various monstrosities have resulted similar to those obtained by shaking the incubating eggs. It seems likely that these injurious agents and the various infections and intoxications, when they act upon the embryo before the differentiation of the various organs lead to malformations, and when they act after the organs are defined, their effects are similar to those experienced in post-fetal life. For example, malformation of the heart will result from injurious influences early in fetal life and fetal endocarditis and from similar influences felt later in uterine life. None of the infectious diseases is much altered by a coincident pregnancy. The only possible exceptions to this statement are those diseases which rapidly produce anemia, such as acute articular rheumatism, malaria, etc. The addition of such anemia to that of the pregnancy is markedly injurious. Another possible exception is that of acute yellow atrophy. This disease, undoubtedly an infectious one, is considerably more frequent in pregnancy and the puerperium than under other circumstances. Chlorotic women are usually sterile, but if they conceive, the anemia is intensified by the pregnancy. Women who, as young girls, have been chlorotic, often suffer a relapse during pregnancy. Pernicious anemia is made worse by pregnancy, but leukemia is not materially influenced. All of the acute and chronic infectious diseases have an injurious influence upon pregnancy and the fetus, often causing an abortion. With the exception of the variola, these diseases are usually no worse when combined with pregnancy than under ordinary circumstances, but the summation of the disease and a resultant abortion are bad. Variola, which occurs somewhat more frequently during the second half of pregnancy, is often of the severer form. Abortion occurs in about 50 per cent. of the cases; the severer the variola, the more certain the abortion. Pregnant women bear vaccination well, but the vaccination does not protect the fetus. According to Sedgwick, a fetus may have an intrauterine variola, or be born with the eruption without the mother having the disease. What is more probable is that the mother has had a variola without eruption. Scarlatina is an uncommon complication of pregnancy. Olshausen finds but seven cases. If severe, it excites abortion. Measles is somewhat more common than scarlet fever. Underhill has collected fifteen cases. In five of seven cases, occurring early in pregnancy, abortion occurred. All of seven cases in the last month of pregnancy miscarried early in the disease. Pregnant women show a certain degree of immunity toward typhoid fever, and this immunity increases in the second half of pregnancy, but the speaker has found no evidence bearing upon the correctness of this statement. When the disease occurs it causes abortion in considerably more than one-half of the cases. The maternal mortality from typhoid is somewhat higher than the average mortality, being 17 per cent. of 183 cases. Malaria often causes abortion, particularly in the second half of pregnancy; according to Goth, 41 per cent.; Weatherley, 46 per cent. The combination of the anemia of pregnancy with the hematolysis of malaria is particularly bad. In pneumonia the more advanced the pregnancy the more inevitable its interruption, and it is only when the miscarriage occurs during the ninth and tenth months that the fetus has a good chance. Cases treated expectantly give a mortality of 14.3 per cent.; those in whom abortion is induced give a mortality of 71.9 per cent. Influenza, during epidemics, is often the cause of abortion; the more severe the influenza, the more inevitable the abortion. It was formerly stated that tuberculosis became quiescent during pregnancy. The opposite is true. The more advanced the tuberculosis, the more injurious the pregnancy. With advanced tuberculosis abortions are common, and if the child is born alive it is a weakling. According to Grisolle, 38 per cent. of children of phthisical women die, and about one-fourth of these are stillborn. Actual transference of the tuberculosis, i. e., an intrauterine tuberculosis, while not unknown, is decidedly rare.

TOXIC HABIT AND TOXIC OCCUPATION ASPECTS OF PREGNANCY.

Dr. Charles S. Bacon said that when abortion is caused it may be due to the toxic substance acting injuriously upon the uterus, or it destroys the child and reflexly acts upon the uterus. If the poison directly affects the uterus it may affect the uterine muscle, causing contraction, or it may interfere with the circulation. A poisonous substance taken habitually, voluntarily, or accidentally, may affect the uterus. The basis of scientific knowledge on this subject was established by Gusserow a number of years ago, and since then confirmed by a number of other experimenters, who have shown that substances pass from the mother into the fetus through the placenta. Morphin undoubtedly passes through the placenta, but it does not follow that this drug affects the fetus as it would a born child. Strychnin, injected into the fetus while it is still in the uterus, in large doses, causes convulsions in the mother and perhaps death, but does not cause convulsions in the fetus. The fetus lives for some time after the death of the mother. Alcohol is commonly supposed to have some effect on pregnancy, but there are no conclusive proofs that taken in fairly moderate quantities it causes abortion. Experiments have conclusively established the fact that alcohol taken in moderate doses is not excreted by the breast, and only when taken in large quantities is it found in the milk. It is sometimes said that morphin causes abortion. Whether it does so by its effect on the uterus, or by affecting the child, is not definitely established, nor has it been absolutely proved that morphin does cause abortion. Another question is as to the effect of morphin on the milk when it is given to pregnant women. The excretion of morphin, or of any of the alkaloids of opium by the milk, has been claimed by some, but it has not been definitely established. That the fetus is affected in its structure and functions of various organs of the body by morphin much in the same way that it is affected by alcohol, is extremely probable. Workers in tobacco factories are apt to abort. About twenty years ago investigations were made by the French government on this subject, several hundred cases were collected and classified, which showed that no definite conclusions could be drawn. Chronic lead-poisoning is frequently the cause of abortion, but whether the abortion is produced by the action of lead on the uterus, by its action upon the fetus, or upon the mother, is an open question. It seems probable that lead acts upon the mother rather than upon the fetus, because the action of lead upon the unstriped muscular fibers of the intestine is well known, and it is probable that it may act upon the uterine muscles in the same way and cause uterine colic in the same manner that it causes bowel colic.

VENEREAL AND DERMIC ASPECTS OF PREGNANCY.

Dr. William L. Baum stated that gonorrhea very rarely interferes with the progress of pregnancy. In a number of cases the gonorrheal process is present shortly before the birth of the child, and it seems to exert very little, if any, influence upon pregnancy. Gonorrhea may influence pregnancy in this way, that a long-continued infection, or frequent reinfections as a consequence of endometritis, salpingitis, etc., may produce a disturbance during pregnancy. As to syphilis, it is the constitutional intoxication which plays an important rôle in subsequent pregnancies. It is known that in the majority of instances, particularly in untreated cases of the malignant forms of syphilis which occur in pregnant women, the women abort. The child, if carried to full term, may be syphilitic at birth, or manifest syphilitic symptoms thereafter.

As to the skin manifestations in pregnancy, he considered the effect of the skin disease upon the course of pregnancy, and the etiologic factor in pregnancy which causes certain dermic manifestations to take place. Frequent attacks of pruritus without any apparent skin lesions may be noted. During pregnancy there may be multiple types of erythema and a great many true neuroses of the skin. Skin lesions of the pigmented type, such as chloasma, may be brought about by other conditions than pregnancy. There is very little literature on the subject of the exanthemata having any particular effect upon the progress of pregnancy, except those of the contagious type.

RENAL ASPECTS OF PREGNANCY.

Dr. Charles E. Paddock discussed this phase of the subject. It may be only one of the numerous modifications produced by the economy of gestation, and while the diagnosis is not always easy, the treatment will, as a rule, determine it. It is claimed by Winckel that 2 per cent. of women who were healthy before pregnancy have albumin in the urine during pregnancy, and it is further claimed that 6 per cent. of all pregnant women have albuminuria. Pregnancy in the majority of women is not a physiological process, and the sooner this is understood, the better it will be for the mother and child. The changes going on in the economy of the woman call for greater demands upon the heart, liver, kidneys, etc., and any interference with the action of one of these organs acts disastrously upon the others. There would be fewer cases of albuminuria and eclampsia if hygienic rules were adhered to. If albumin be present during the first few months of pregnancy, rest in bed and a milk diet will usually be all the treatment that is necessary. If, however, there are other symptoms showing a beginning intoxication, more heroic treatment will be necessary. Should the urine show no change under this treatment, the emptying of the uterus is imperative. Under ordinary circumstances the eclamptic attack must be controlled by chloroform and chloral, and labor allowed to go on. The attack, as a rule, induces labor. Olshausen and Veit advocate the use of morphin. Morphin in the speaker's experience has been unsatisfactory. He feels much safer with chloroform and chloral, and believes the use of morphin in eclampsia has influenced unfavorably the mortality.

From the present state of knowledge concerning albuminuria and eclampsia, the author concludes that the etiology and pathology are unknown; that the kidney shows the most constant lesion, but may be entirely healthy; that the majority of the cases are acute exacerbations of a chronic nephritis, and that the principal treatment is prophylactic.

NEUROLOGICAL ASPECTS OF PREGNANCY.

Dr. Daniel R. Brower referred to nausea and vomiting and uterine pain as being among the nervous phenomena of pregnancy. The remedies most useful to control vomiting are those that appeal to the nervous system, namely, tonics and sedatives. Nausea and pain, in the early months of pregnancy, are noted mostly in the neurasthenic type of women. Chorea of pregnancy is a serious neurological condition. It is to be combated by the same general methods that are employed in ordinary chorea. He pins his faith in the treatment of chorea to some one of the preparations of arsenic, administered in heroic doses.

Multiple neuritis, or the neuritis of pregnancy, is rare, and is doubtless, when it occurs, the product of auto-intoxication. Hysteria develops from the pregnant state, but the basis for it is laid in the previous history of the individual, pregnancy being simply one of the additional factors.

THE PSYCHIATRIC ASPECTS OF PREGNANCY.

Dr. W. G. Stearns, in explaining the comparative rarity of insanity in pregnancy, said that it must be recognized that the parturient state is natural; that woman was born to that end, and that her system has been prepared for it, and is consequently better fitted to withstand its depletions than the other strains placed upon her by unfavorable or vicious external conditions. The psychosis which most commonly develops during gestation is melancholia. Ushered in by a gradually deepening depression with timidity and vague forebodings, later profound depression, undefined fear and despair, suicidal tendencies, refusal of food, and sometimes positive stupor become the most prominent mental symptoms, but can not be distinguished from those found in melancholia otherwise produced. Puerperal insanity is more frequent than either the insanity of pregnancy or lactation. While the psychoses developing in pregnancy and during lactation are chiefly melancholias, about two-thirds of the cases occurring during the puerperium are manias. Seventy-five to 80 per cent. of women recover in puerperal insanity in from two to nine months, but occasionally recoveries are delayed for from two to three years. About 10 per cent. die, and the remainder become chronically insane. Lactational insanity may be any form of derangement, but is oftener melancholia from exhaustion, particularly if another pregnancy or the return of the menses combine to deplete the nutritional supply of the nervous system. Hallucinations are common. The treatment and management of the psychoses occurring in the course of childbirth should differ in no essential manner from that of mental disease occurring at other times, with the exception that much more can be expected of prophylactic treatment.

OPHTHALMOLOGICAL ASPECTS OF PREGNANCY.

Dr. Casey A. Wood pointed out that the most important condition for which the ophthalmologist is consulted, is difficulty of accommodation, namely, difficulty in reading, in writing, in doing near work generally. Muscular conditions in the eye are different during pregnancy from those before and after it, and they do not differ from muscular difficulties observed in the body elsewhere. A primipara not infrequently requires the aid of glasses in reading or doing near work, but after pregnancy has been completed she can dispense with them. Pigmentation of the eyelids is not infrequently seen in pregnancy, which is merely a part of the general pigmentation. Cases of well-marked blindness, and even of complete blindness, have been observed and reported as one of the outcomes of gestation. Violent and long-continued vomiting produces small hemorrhages into parts of the eye, and sometimes serious results follow. Detachment of the retina is not a very uncommon condition in pregnancy. Retinitis albuminurica frequently accompanies pregnancy, but the disease of the retina shows itself in a more favorable form in pregnancy than it does in the ordinary forms of Bright's disease. The prognosis is not as grave in pregnancy from albuminuric retinitis as it is in chronic Bright's disease, although the conditions are about the same. Temporary amblyopia of uremia, with or without albuminuric retinitis, was referred to. Occasionally a patient who is pregnant, whether albuminuria be recognized or not, has temporary or even complete blindness, which may last from a few hours to a few days. These patients almost invariably get well. Nothing pathological can be seen in the fundus by the ophthalmoscope.

LARYNGOLOGICAL ASPECTS OF PREGNANCY.

Dr. Edward T. Dickerman referred to the influence of pathologic conditions of the upper respiratory tract upon pregnancy. In the first four months of pregnancy, especially in women of a neurotic temperament, nasal obstruction is observed, or there is a turgescence of the erectile tissue in the nose. This condition gradually subsides toward the sixth or seventh month, when nasal breathing is again restored. Late in pregnancy the tones of the voice may be affected. The upper tone limit may be lowered. Many professional singers fear pregnancy on account of losing their voice. During pregnancy there is a lowering of the voice due to interference with free chest expansion. Afterward there is a general relaxed states of the abdominal muscles which, until they resume their normal tonicity, may influence voice production, but pregnancy should have no permanent influence upon the voice. Tertiary syphilitic lesions of the larynx and of the pharynx are almost invariably retarded during pregnancy, and they remain practically in a dormant state for months after parturition has taken place, when they take on renewed activity and the tissues rapidly break down.

THE TEETH IN PREGNANCY.

Dr. Eugene S. Talbot said that during pregnancy women are subject to more or less discomfort, annoyance and inconvenience from the teeth. The disturbance may vary from slight uneasiness to the severest form of odontalgia involving one or several teeth. Decay not only takes place in new localities, but rapid disintegration about new fillings is very common. The teeth are so sensitive and soft they can be cut like chalk. The decay creates the appearance of horn or cartilage, showing that the tooth is deprived of its lime salts by a process similar to osteomalacia in bone. When children are born at frequent intervals, especially if complications arise, the teeth are frequently completely destroyed. Interstitial gingivitis is likewise a common condition of the jaws and gums during pregnancy. Mouths healthy before pregnancy become diseased. So far as the alveolar process is concerned, there is a different etiological factor. Much stress is laid upon the normal physiological nature of pregnancy and childbirth. The changes which occur in nutrition, secretion and excretion, however, indicate a new factor, which, under Virchow's definition, must be pathologic, albeit not nosologic. One of the most marked changes is a perverted function of the excretory organs. The effete matter is not eliminated and auto-intoxication results. The alveolar process is a transitory structure. It is simply developed for the purpose of holding the teeth; when these are lost, the process absorbs. The effect of auto-intoxication upon the alveolar process is to produce interstitial gingivitis, halisteresis, osteomalacia, Volkmann's perforating canal absorption, and endarteritis obliterans. The indications are inflammation of the gums, absorption of the process, leaving the necks of the teeth quite exposed. The teeth later loosen and drop out. The teeth of pregnant women should be put into a healthy condition as soon as possible. Dental operations should only be done as a necessity. After the teeth have been put in order the physician should insist upon perfect cleanliness of the mouth and teeth.

Dr. James G. Kiernan, in discussion, took issue with Dr. Bacon. He could not see, with regard to the question of the passage of morphin through the placenta and mammary gland, why more evidence is needed than the researches of Loewenstein, Potter, Bureau, and others, who have found morphin in the mammary gland and in the placenta. With regard to tobacco studies, thirty years ago, or a little over, boodle investigations were made by the French government in connection with the government monopoly of tobacco. These, like the English opium investigations made in India, were intended to be as little derogatory of tobacco as the English investigations were of opium. Etienne, in 1897, made a careful investigation of the women who work in the tobacco factories. Corroborative results were noted as to findings in other European tobacco factories, as well as in some of the tobacco factories in this country. Furthermore, observations prove that the fluids discharged at delivery contain nicotine. As to the influence of lead poisoning on the offspring of the Staffordshire potters, he could speak strongly. He has had cases of big-headed idiots, in one of whom the brain at the age of 21 weighed 68 ounces. The barren ependyma formation lining the ventricles, replacing the old hydrocephalus, as it did in the case of Cuvier, was six times as thick as it should be. Strictly speaking, however, so-called hypertrophy of the brain in macrocephalic idiots is connective-tissue hypertrophy, not active functionating hypertrophy of nerve cells.

Cincinnati Academy of Medicine.

Meeting, Jan. 7, 1900.

President Dr. C. L. Bonifield in the chair.

GALLSTONES.

Dr. B. Merrill Ricketts reported cases, also presenting specimens. Case 1. Male, aged 45 years, had suffered from severe attacks of colic for twenty years. Four years ago he passed some 40 octagonal stones about the size of a pea. Cholecystotomy was made Dec. 30, 1900. The gall-bladder was found bilocular and closely adherent to the stomach and duodenum; all adhesions had to be separated before the gall-bladder could be brought into the abdominal incision. It was then deemed necessary to incise each cyst, and from the lower cyst was removed 10 stones, from the upper or fundus, 77. These stones were all about the size of a pea, were octagonal, and were extremely highly polished. Before concluding the operation the septum dividing the gall-bladder into two compartments was torn away, thus forming one cavity. Since the operation the temperature has never been above 99.2: there has been no pain or icterus, and his recovery seems assured. Case 2. Male, 39 years old, with a history of icterus and of colic extending over many years. Cholecystotomy was made Dec. 13, 1900. On opening the gall-bladder, there were found 15 stones and an equal number were removed on the fifth day. An evacuation of the wound on the fifteenth day contained many small fragments of biliary concretions, but subsequent dressings have failed to show any and the biliary tract is in all probability free from these concretions. The patient made an uninterrupted recovery and the wound is now entirely closed. Case 3. Male, 39 years of age, with a history of having suffered from occasional attacks of gall-stone colic for several years. Cholecystotomy was performed about Dec. 1, 1900. On opening the gall-bladder, about five ounces of a clear fluid apparently containing pus, escaped. He had not been able to find a stone either by the finger or the sound in either the gall-bladder or the common duct. Bile flowed freely until about the fifth day, when he was seized with a severe paroxysm of pain and the amount of bile was doubled. A stone was suspected, especially as he would have occasional attacks of pain. He returned home on the 18th day, only to have a severe attack of colic within 24 hours. He returned to the hospital, and on examining the dressings there were found several broken fragments of a smooth stone without facets. The wound has been kept open in the hope that other fragments, the presence of which are suspected on account of the occasional attacks of pain, may be discharged. In case this does not happen it is more than probable that another operation may become necessary at some future time. The essayist believed that the escaped stone had been present in a dilated hepatic duct. As to the causes of the fracture of the stone or stones, "the probabilities are that the absorption of oxygen, the changing of the fluid discharging from alkaline to acid, or the contraction of the tissues of the biliary tract, one or all, are the causes for the breaking into fragments of the stone or stones."

SPINAL COCAINIZATION.

Dr. H. J. Whitacre reported three cases. Case 1. Double complete fistula in ano. Patient a male, aged 45, very dissipated as regards his habits, presented himself at Christ's Hospital for treatment. On physical examination there was found consolidation, probably tubercular, in the upper lobes of both lungs, a mitral regurgitant murmur, and the kidneys chronically diseased; in addition he gave a history of having taken many forms of alcohol cure during the last ten years, and admitted a recent protracted spree of about four weeks' duration. Fifteen minims of a 2 per cent. cocain solution—put up in sterile pearls—were injected into the spinal canal between the fourth and fifth lumbar vertebræ. The patient said at the end of ten minutes that there was some numbness in his feet, but the anesthesia did not extend higher. Even at the end of 45 minutes there was no further progress. Suddenly he stated that there was no sensation in the buttocks, and examination revealed this to be the case, as also in the perineal region, though the lower extremities never lost sensitiveness. Anesthesia extended as high as the umbilicus. The operation was now performed, painlessly, in twenty minutes. Even when the operator inserted his finger some four inches into the rectum and delivered the grooved director that had emerged at this point, the patient complained only of a dragging sensation. There were no toxic manifestations. On the day following the operation, he complained of an attack of sciatica, which he himself assigns to the peculiar—lithotomy—position he had to assume during the operation, as he has previously had many such attacks. Nothing else of an unfavorable nature appeared. Case 2. A male, 82 years of age, with a history of prostatic enlargement covering a period of many years. During the last two years he has suffered from attacks of acute cystitis or of retention, so that fully eighteen months of this time has been spent in hospital wards at various intervals. He was able to catheterize himself fairly well, until he one day attempted to improve matters by forcing the meatus and urethra with a hickory stick; since that time an experienced physician has had the greatest difficulty in introducing a catheter. His advanced age, arteriosclerosis, and damaged kidneys would have made the giving of a general anesthetic an extremely hazardous matter. Eighteen minims of the 2 per cent. solution were used for the injection. Vomiting occurred in about three minutes and he complained of weakness. His face was pale, but his pulse showed no alteration. In ten minutes, operation was begun; it consisted of a perineal section, external urethrotomy, and removal of the right prostatic lobe. This was all done without pain, without evidence of shock, and with no failure on the part of any of the vital functions. Anesthesia continued over an hour. Recovery was uninterrupted. Case 3. Male, 17 years of age, with a history of osteomyelitis of the femur of six years' duration. At the time of the injection the patient made a sudden movement and anesthesia not ensuing in over an hour, essayist is certain that this movement threw the needle out of the spinal canal and the fluid was injected outside the dura. He was certain that the second injection made two days later entered the dura, but no anesthesia following in over an hour, ether was given. The only untoward symptoms following the injection were a headache twenty-four hours after and a slight rise of temperature. His method of giving the injection in these cases was that of Tuffier, and he endeavored to maintain the rigid asepsis of a major operation. The essayist then gave a history of the operation and reports as to mortality up to date. He also stated that in his opinion the operation had best not be performed in nervous women and children. He did not think that the method would be used higher in the cord. As regards the advantages to be derived he said that operations have often to be made on patients the victims of severe pulmonic, cardiac, or renal disease, in which patients a general anesthetic would be dangerous to the highest degree.

RAYNAUD'S DISEASE.

DRS. A. RAVOGLI and M. L. HEIDINGSFELD presented a patient afflicted with Raynaud's disease; a male, aged 24, of German birth, duration of his disease ten years. The fingers of both hands were affected about equally. They were enlarged to about twice their normal size, and were chronically edematous; they were very cold to the touch and of a bluish-red color; a few bullæ were present on the phalanges of several fingers, and at the digital extremities of several of the metacarpal bones; these bullæ had a tendency to necrosis; there was diminished sensation to heat and cold. There was no hyperesthesia or anesthesia; no periodicity; involvement of the fingers alone: no direct or predisposing cause such as trauma or exposure to cold. On account of these facts the diagnosis must be held sub judice, with the possibility of the case being a vasomotor or trophoneurotic change, such as chronically cold hands, erythromelalgia, or angioneurotic edema. Some improvement has been noticed under intestinal antiseptic treatment.

DR. B. F. LYLE reported a case of Raynaud's disease that had died at the branch hospital for consumptives. He had been sent from the city hospital on account of areas of dulness involving both apices. On post-mortem examination there was found a fibroid condition of the apices, a general edema of the lungs—the direct cause of death—a fatty liver, and as was afterward shown by microscopic examination, a sclerosis of the posterior and lateral columns of the spinal cord. The man's mental condition was such that no satisfactory history could be obtained at the time he entered the branch. The gangrene had first attacked the left great toe, and had gradually involved, symmetrically, a considerable portion of both legs. The upper lip and the tip of the nose had also suffered.

DR. F. W. LANGDON, who had also examined the case, agreed in the diagnosis, and stated that at the time of the examination the patient's condition was such that nothing satisfactory could be elicited.

DR. J. E. GRIEWE made a detailed report as to the pathological changes in the spinal cord, and was inclined to the view that they were not causal so far as Raynaud's disease was concerned, not casual, but a part of a general pathologic change, of which the gangrene and the symmetrical fibroid changes in the lungs were other and coincident phases.

DR. A. RAVOGLI stated that the patient was in the dermatological ward of the Cincinnati Hospital, and on his service several months before he was transferred to the branch. At that time his mental condition was good and he gave a well-marked history of local asphyxia and of periodicity covering a period of some six or seven years previous to the onset of the gangrene. He was inclined to the opinion that it was a well-marked case of Raynaud's disease.

Philadelphia Pediatric Society.

Meeting Dec. 11, 1900.

President Dr. Alfred Stengel, in the chair.

TRANSPLANTATION OF PEDICLED FLAPS.

DRS. C. H. FRAZIER and A. L. NEWHALL reported a case of flaps transplanted from buttock to hand, with exhibition of patient, a colored boy aged 3 years, who had two years ago fallen against a hot stove, striking on the palm of the hand. A severe burn resulted, followed by cicatrization and contracture. The operation consisted in making two parallel incisions on right buttock, after which the scar tissue on the hand was removed. The sides of the flap on the buttock were stitched to the sides of the hand; a few days later the upper and afterward the lower edges of the flaps were dissected loose and stitched in a similar manner. The parts were kept immobilized, good union has resulted, and the hand and fingers are almost normally useful.

SPASTIC PARAPLEGIA.

DR. C. F. JUDSON reported a case following traumatism in a child 5 years old. The father had died of diabetes. There had been no history of paralysis on side of father or mother, except an aunt, who had suffered from late hemiplegia. At 2½ years it had suffered from typhoid and later from chickenpox. The present illness dates from about Jan. 7, 1900. The onset was apparently sudden and marked by a period of unconsciousness lasting ten minutes. About the fifth week he began to manifest weakness in the legs, and gait became awkward. Later the gait became typically spastic and he could not walk. The muscle sense was good, as was also co-ordination. Sensation to pain was slightly reduced; eyeground was normal. There was no involvement of sphincter nor evidences of rickets. After a course of warm baths and rest in bed ankle-clonus, which had been present, now disappeared, and the child began to improve, and at this time is able to walk, but with a distinctly spastic gait. There is no evidence of Pott's disease.

INFANTILE PALSY.

DR. ALFRED STENGEL reported several cases accompanied by more or less wasting. He believes that the condition was more prevalent in the city than usual, an opinion in which several speakers concurred.

DR. J. P. CROZER GRIFFITH exhibited a case of nodding spasm. The patient was a colored child about 1 year old, whose condition was manifested by continual nodding backward and forward, but at times a rotary movement would occur. The child was not distinctly rachitic.

DR. A. A. ESHNER had seen a good many of these cases at the Orthopedic Hospital which had been associated with rickets.

DR. D. J. M. MILLER had several years ago treated three similar cases with bromids and out-door life with great benefit.

Meeting Jan. 8, 1901.

President Dr. Alfred Stengel, in the chair.

SEVERE ANEMIA WITH LEUCOCYTOSIS.

DR. S. M. HAMIL reported a case of severe anemia with leucocytosis in an infant of six months. This child had been breast-fed. It presented a yellowish color. At the first examination it was found that the liver and spleen were both enlarged. A murmur could be detected over cardiac area and vessels of the neck. The blood examination showed 3,000,000 red corpuscles and the leucocytes ranged from 23,000 to 29,000. Nucleated red-cells were present, as was poikilocytosis. The lymphocytes formed about 67 per cent. There were no evidences of rickets, scurvy, nor tuberculosis. The speaker regards the case as being a border line, one between leukemia and pernicious anemia.

LEUKEMIA IN AN INFANT.

DRS. J. A. SCOTT and H. M. FISHER reported a case in which the red cells had numbered 3,360,000 reds, and the leucocytes 36,500. The polymorphonuclears had been 25 per cent., eosinophiles 8 per cent., and the hemoglobin 30 per cent. A considerable number of myelocytes had been present, but were now diminishing, as were the nucleated red cells. The child lately had suffered from an attack of diarrhea, the stools numbering ten or twelve each day. The spleen had diminished considerably in size. There had never been any hemorrhage from the mucous membranes. By a mistake this child had been taking large doses of tincture of nux vomica, which had seemed of benefit and the medicine had been continued.

MALFORMATION OF THE BOWEL.

DR. E. E. GRAHAM exhibited a specimen of malformation of the bowel. This child had been born at term and seemed normal. During the first twenty-four hours the child refused to take the breast, and on the following day an unsuccessful effort was made to have it nurse. Up to this time there had been no bowel movement, but vomiting had occurred. Twelve hours subsequently the abdomen became distended. At this time he suspected some obstruction of the bowel and made a rectal examination, but the obstruction could not be felt. Later the abdominal distention become more pronounced and an operation was decided upon, which was done under the influence of local anesthesia, with success, the patient manifesting no symptoms of pain. On making an incision a point of obstruction was found in the distal end of the colon which terminated in a cul-de-sac and was adherent to the sacrum. The child rallied from the operation only slightly, and died a few hours later.

GYROSPASM OF HEAD, WITH NYSTAGMUS.

Dr. D. J. M. Miller presented a case. The child had been artificially fed from birth. Last summer it had suffered from an attack of colitis. The head movements began in May last and have continued since that time, but in September were not so pronounced. Two weeks ago there was lateral rhythmic movements, and on holding the head still, nystagmus would develop. Examination of the eye-ground proved negative. In these cases a history of acute illness may usually be determined.

Dr. Frank White stated that he had at present under observation of a case of a similar nature to the one presented, but more marked in character.

CONGENITAL SARCOMA OF LIVER AND SUPRARENAL CAPSULE.

Dr. William Pepper read a paper on and presented specimen of this tumor. The father of the child had at one time suffered from insanity. The mother had six other children, all seemingly healthy. There was no history of syphilis. The patient had been born at the sixth month of gestation. A few weeks after birth a tumor could be outlined in the abdominal region, the latter region being bulging in character. The mass filled up the right iliac region and extended slightly to the left of the umbilicus, where a rather sharp border could be felt. Flatness was elicited over the entire area. The child died when three months old. At the autopsy it was found that the entire abdominal region was filled up by the liver and spleen. The capsule of the liver had a marbled appearance with hemorrhagic foci. A few enlarged lymphatic glands were found in the abdominal region. The growth had been one of typical lymphosarcoma. The speaker had made a thorough review of the literature on this subject. The facts seemed to indicate that the growth is essentially of congenital origin. In the majority of instances there is a history of rapidly growing tumor coming on a few weeks subsequent to birth, and without pain. A history of syphilis is generally not present. In certain cases the sarcoma might be round-celled in type. One writer had thought the primary seat of these growths was located in the liver, others that it was in the right suprarenal. This case seemed to originate in the latter locality.

Dr. J. A. Scott thought that one of the marked features of the case was the profound involvement of the suprarenal, without evidences of pigmentation.

Dr. Pepper, in closing, stated that of 41 cases reported only slight pigmentation had been present in 3 instances.

Dr. Alfred Stengel then delivered the annual address.

San Francisco County Medical Society.

Regular Meeting Dec. 11, 1900.

President Dr. Geo. H. Evans in the chair.

SOME OF THE RARER COMPLICATIONS OF GONORRHEA.

Dr. M. Krotoszyner referred to the ravages of the gonococcus on the posterior urethra, bladder, ureters, and pelvis of the kidney in males, and the ascending gonorrheal infections in women, generally ending in a complete destruction of the uterine adnexa, and called particular attention to the nervous complications of this disease. He had personally seen many cases of very severe hypochondriasis caused by a chronic posterior urethritis, which in the majority of instances had been submitted to too much treatment. In his service in the French Hospital (genito-urinary) at least 60 or 70 per cent. of all his patients suffer with sexual neurasthenia. Besides these functional troubles, organic affections of the nervous system on the basis of gonorrheal infection had been reported, of which three forms seem to be most prevalent: 1, neuralgic affections caused by gonorrhea, especially gonorrheal sciatica: 2, gonorrheal muscular atrophy and atrophic paresis; and, 3, gonorrheal neuritis and myelitis.

He reported a recent case of the first form in which a man had been confined to bed for several weeks with excruciating pains along the course of the right sciatic nerve, and the history of a recent gonorrheal infection. The sciatica, however, did not abate until several weeks after the disappearance of the discharge. In speaking of the third form, he said the literature on gonorrheal myelitis is not so scanty as one may be led to assume. As far back as 1839 Stanley described a case of paraplegia of the lower extremities caused by gonorrhea. Since that time a number of cases have been reported by other authors. Moltschanoff was able to establish organic degenerative processes in the spinal column of animals inoculated with the toxins of gonococci, which produce a complex of symptoms similar to that of tabes. He thought that the connection of gonorrhea with nervous diseases seems to call for just as much attention and study on the part of the neurologist as that of syphilis and nervous affections. Another rare complication of gonorrhea that the author observed a few months ago was in the case of a young man of 23, under his care for a severe attack of gonorrheal urethritis, prostatitis, and epididymitis, who called his attention to an affection of the finger nails, which he had noticed for two or three weeks. There appeared a sharp demarcation between the matrix and body of the nails. The upper part of the nails showed a grayish discoloration and rugged edges. It seemed as if the body of the nails would soon fall off. There was no history of syphilis. The patient was referred to Dr. Douglass W. Montgomery, who also could not arrive at a satisfactory conclusion as to the etiology of this nail affection. The author observed the patient closely and noticed the absolute disappearance of his nail disease with the abatement of his gonorrheal affection. He said that it was a well-known fact that in weakened and tuberculous subjects gonorrhea is sometimes incurable; on the other hand gonorrheal infection may weaken the system to such an extent as to lessen the resistance to tuberculous infection, either of the general system or locally. He had recently seen a case of tuberculous vesiculitis and orchitis on the basis of a chronic posterior urethritis, and thought that gonorrhea would occupy a very important place as an etiologic factor in tuberculosis. This opens up a new field for observation and study, and many dark pathologic conditions now unexplainable as to their etiology may be cleared up by the knowledge that gonorrhea, heretofore considered a simple local affection, is in truth a constitutional disease, and that the gonococcus forms toxins which may invade all organs and tissues of the body, and produce as manifold and serious complications as those we are accustomed to observe in syphilis.

Dr. D. W. Montgomery said that on March 28, Dr. Krotoszyner sent him the patient referred to. "The man, 21 years of age, a cook by occupation, was suffering at the time from gonorrhea, but his general health was good. He told me that the affection of the nails began six or eight months previously; in that of the left middle finger; there was a great deal of pain, and the whole finger-tip was reddened, but there was no redness at the base of the nail. The nail of the left index finger was the next affected; at the start this was painful and the finger-tip was reddened. The subsequently affected fingers were neither red nor painful. The left thumb nail was the only one that fell off entirely. The toe-nails were not affected; there was no numbness nor anesthesia nor other nerve symptoms, nor was he troubled with cold hands or feet. The skin was in all other situations in good condition, white and normal. There were no symptoms whatever of psoriasis, and as previously mentioned, the patient had never suffered from syphilis. The hair and teeth were good. When I saw him, the nails of the left ring, middle, index, and the right thumb, were affected: the affected nails were white, and broken with uneven free edges. The nails had lifted under their free edge, and the process had worked backward, separating the nail from its nail bed. There was no advancing red border such as is seen in psoriasis, indicating the advancing edge of the disease. As Dr. Krotoszyner has said, I did not know what to attribute the disease to. There was no history of syphilis, there was no evidence of disease of the nerves, and there was no sufficient evidence of psoriasis. If this nail affection is to be attributed to gonorrhea; then it differs from the gonorrheal nail affections described by Vidal, Jeanselme and Stanislowsky, in there not being at the same time a corneal dermatitis."

GASTRIC CARCINOMA.

Dr. S. I. Harrison presented a carcinoma which he had removed Sept. 22, 1900, from a man 50 years of age. The man came from Nevada, where he had been treated for about three years for gastric catarrh. He came complaining of constant nausea and frequent vomiting—no blood—and discharging large quantities of mucus from the bowels. The tumor was situated under the outer margin of the left rectus muscle. It was quite movable, could be shoved up under the ribs or drawn down almost to the umbilicus, but always remained on the left side. Celiotomy was done with the assistance of Drs. E. E. Kelley and F. B. Carpenter. The incision was made through the left rectus muscle, and the tumor was found in the anterior wall of the stomach near the pylorus and had invaded a large area. Two fifths of the stomach, including the pylorus, was removed. The incision in the stomach was entirely closed by three rows of catgut sutures. An end-to-end anastomosis was then made between the duodenum and posterior wall of the stomach by means of a Murphy button. He rallied well from the effects of the operation, his temperature never exceeding 100.4 F., and on the fifth day feeding by the stomach was begun. At the end of two weeks he was able to sit up, and three weeks from the time of operation he left the hospital. The Murphy button had not been recovered. A careful search had been made, except on two or three occasions during his last week in the hospital, when he went to the toilet, contrary to orders.

When last seen he stated that he could eat and digest any kind of food without distress, and was gaining in weight at the rate of a pound a day. No X-ray search had been made for the button.

Chicago Surgical Society.

Regular Meeting Held Jan. 4, 1901.

Dr. Christian Fenger in the chair.

MORRISON OPERATION FOR LIVER CIRRHOSIS.

Dr. L. L. McArthur presented a patient upon whom he had performed the Morrison operation—operative establishment of collateral circulation. The man had been a hard drinker of distilled liquors for years, and had ultimately developed the characteristic hobnail liver. The result of the operation was excellent. He said that an excellent résumé of the literature on this subject could be found in a recent number of the *American Journal of the Medical Sciences*, by Fraser, who reports the fourteenth case. The operation should be done under cocain anesthesia, as recommended by Fraser.

Dr. M. L. Harris did a similar operation in February, 1900, on a man 54 years of age, who had been a very heavy drinker of whisky. The third week after the operation the patient left for home. Eight weeks thereafter he died suddenly. At the autopsy cerebral hemorrhage was found as the cause of death, the hemorrhage having taken place in the ventricles of the brain.

TWO CASES OF HIP-JOINT DISEASE TREATED BY THE PHELPS METHOD.

Dr. M. L. Harris presented these cases. The first was a boy, 7 years of age, who was admitted to the Children's Hospital, Aug. 10, 1900, and discharged Dec. 30. Patient was admitted in the usual condition, greatly emaciated, having hectic fever, pain, and the characteristic deformity of hip-joint trouble. There was a large abscess filling the left hip-joint and extending beneath the tensor vaginæ femoris muscle almost to the knee. He was operated on Aug. 29, the joint opened, and the tubercular focus, found on the upper surface of the neck and inner surface of the great trochanter, removed with curette. The joint was filled with pus and tubercular granulations, which were removed with curette. The abscess extending down the thigh was opened in the same way, and also posteriorly where an abscess had dissected backward. The joint was filled with carbolic acid—95 per cent.—and allowed to remain one minute, when it was removed and alcohol used. All the cavities were filled in the same manner, and washed out with alcohol and dried thoroughly with gauze. A large drainage-tube was used, and the wounds packed with gauze. A long anterior Thomas splint and plaster to fix the joint were used. Improvement was rapid; the cavities closed up, and the joint is now well.

The other patient, a boy of 4 years of age, was admitted to the hospital July 9, and operated on July 15. The case was essentially the same as the first one. The joint was opened, the tuberculous focus found on the upper surface of the neck extending into the joint, and was thoroughly removed with curette. The joint was filled with carbolic acid and washed with alcohol in the same manner as in the first case, a large drainage-tube being introduced, the joint packed, the wound dressed in the same manner, with Thomas splint, and the boy is now running around.

Dr. Harris mentioned three more cases in the hospital which he had treated in the manner described, but they had been operated on so recently that they were not well enough to be presented. In both of the cases presented almost complete motion in the joint was preserved.

Dr. Christian Fenger referred to the early operations that were made for disease of the hip-joint some fifteen or twenty years ago. He asked whether the Phelps method of treatment was equally satisfactory for primary synovial tuberculosis. The results in the two cases presented by Dr. Harris were more favorable than those from iodoform emulsion injections alone.

Dr. McArthur stated that the conservative surgeon should explore any sinuses or abscess cavities that may be associated with probable hip-joint disease, and see whether the tubercular focus lies in the fossa within the greater trochanter or whether it be a tuberculosis of the acetabulum, for in 2 or 3 per cent. of the cases the hip-joint may be spared if the diseased area be curetted and the joint not incised.

Dr. Harris answered the question of Dr. Fenger by saying that he had not used this treatment in any case of primary synovial tuberculosis. In five cases he had used it in primary hip-joint trouble. It is not the intention to dissect out the capsule in the Phelps method. The tubercular foci are removed by means of the curette, and the joint cavity filled with carbolic acid.

CONGENITAL ANGIOMA OF TONGUE.

Dr. Jacob Frank presented a case of congenital angioma of the tongue in a man, 71 years of age. The patient was shown to elicit opinions as to operative intervention.

Dr. Christian Fenger said that if an angioma of the tongue begins to grow, it should be removed immediately. He had operated on one such case, removing one half of the organ, and the patient is still living.

SURGERY OF THE BLOOD-VESSELS.

Dr. John B. Murphy read a paper in which he spoke of the surgery of the blood-vessels.

In the discussion Dr. Fenger said that the essayist had taken an original step forward in this work, it being an improvement over the invagination method practiced by him (Murphy) in 1897. Where suturing of the arteries can be done, invagination should not be undertaken. Suturing arteries is the easier method.

Dr. A. E. Halstead stated that Lambert was the first to resort to arterial suture, he having made a longitudinal suture of the carotid artery in 1762. Dr. Halstead mentioned a case in which, three weeks ago, he sutured an oblique wound of the first part of the axillary artery. The patient was a woman, 43 years of age, on whom he was operating for a recurrent carcinoma of the breast. The axillary artery was cut obliquely through two-thirds of its circumference while removing the tumor from its sheath. The hemorrhage was controlled by pressing the artery against the clavicle with the index finger of the left hand. Four interrupted catgut sutures were then passed through the two outer coats of the vessel, closing the wound perfectly. The radial pulse was immediately restored.

Dr. Arthur Dean Bevan considered suture of the arteries as being still in its experimental stage, and he regarded the old method of ligating an artery at two points, on either side of the injury, as the safer method.

Dr. Murphy admitted that the work was in its developmental, but not its experimental, stage. The clinical results favored some other means than ligation of arteries.

New York County Medical Association.

Stated Meeting, Dec. 17, 1900.

President Dr. Parker Syms in the chair.

RETENTION CYST OF THE LIVER.

Dr. William A. Shufelt presented this specimen, which had been removed by operation. There was no evidence of calculi in the cuts, and the gall-bladder was normal. He said that he had been able to find recorded only five cases of simple cyst of the liver. These had been, for the most part, sterile echinococcus cysts, but he had been led to regard his specimen as a retention cyst beause of the absence of echinococcus hooklets, the fact that the cyst had been found filled with bile, and because of its histological relations.

TUBE AND OVARY IN AN INGUINAL HERNIA.

Dr. Shufelt also presented this specimen, which had been removed by operation from a woman of 30, who had had for a long time an irreducible inguinal hernia. At the operation the sac of the hernia was found to contain a perfectly developed tube and ovary.

COFFEE AS A BEVERAGE: ITS DELETERIOUS EFFECTS ON THE NERVOUS SYSTEM.

Dr. William M. Leszynsky said that to indiscriminately condemn coffee as useless might shock the faith of multitudes. The purpose of the paper was to show that the ill effects of coffee were by no means uncommon. This statement was founded on a careful study of this subject for the past ten years. Roasted coffee contains caffein and caffeone. We all realize the excellence of coffee as a medicinal agent. From 1892 till 1896 the average importation of coffee into this country had been 597, 484, 217 pounds annually. The people of the United States are said to consume about one-third of the total coffee production, and in this fact, perhaps, was to be found the explanation of the proverbial nervousness of our people and the explanation of the large amount of work they are capable of doing. Dr. Love had expressed the opinion that the excessive use of coffee leads to worse results than the abuse of alcohol. Undoubtedly the morning cup of coffee had a most beneficial effect on a large proportion of our population. The popular idea that coffee can replace food or increase the capacity for work without corresponding tissue-waste was entirely erroneous. The old adage, "What is one man's meat is another man's poison," was often exemplified in regard to the action of coffee. Most physicians had given the subject little if any attention. The habitual daily indulgence in coffee, even in moderate quantities, by those susceptible to its action, invariably led to functional nervous disturbances. No doubt the addition of milk and sugar, by favoring fermentation, adds to the bad effect. Many physicians seem to think that coffee never acts harmfully if taken without milk or sugar, but this was not borne out by extended experience. All neurotic individuals seem to be more or less susceptible to coffee, and it usually aggravates any existing hyperemia in the cerebral system. He had seen persons in whom sneezing had been induced by the use of coffee. He could recall several cases of pneumonia in which caffein had been given as a heart stimulant, which had exhibited marked insomnia and great restlessness until the caffein had been withdrawn. In several patients he had been able to explain an obscure vertigo by the action of coffee. The wakefulness and ready flow of thought after taking coffee was now a commonplace observation. Nurses on night duty and many literary persons were given to taking coffee to secure this stimulating effect. The nervous system of children was peculiarly susceptible to the stimulating effect of coffee, and its use in them should never be permitted. It produces a certain precocity which is deplorable. He had often seen night terrors and tremulousness disappear in children after excluding coffee from the dietary. Several years ago he had attended a boy of 6 years, suffering from acute coffee poisoning. When seen he was in an active delirium, with a pulse of 200, tachycardia and visual and aural hallucinations. The boy had entered the bar-room of the hotel and had taken some coffee beans. These he had eaten during the evening to the extent of about half an ounce. He entirely recovered in about one week. Dr. Leszynsky said that there was a large class of neurasthenics whose nervous condition was ascribable to the use of coffee. He had carefully studied and treated about 200 such cases. Naturally many of the persons so affected were individuals who work under high pressure and are required to do a good deal of talking. They usually complain of mental depression, irritability, insomnia, bad dreams, occasional vertigo, general tremulousness, precordial oppression, cardiac palpitation, loss of appetite, frequent eructations of gas, and constipation. The symptom-complex most commonly noted was general nervousness, tremor, vertigo, restless sleep, cardiac palpitation, eructation of gas and constipation. The pulse would be found of low tension and varying in rapidity from 90 to 130. Tachycardia or bradycardia might also be present. Of course, this entire series of neurasthenic symptoms might result from other causes. Coffee-poisoning was most commonly confounded with chronic alcoholic toxemia, but the diagnosis could be made by a process of careful exclusion. The majority of those who suffer from the coffee habit, according to his experience, drink alcoholic liqours very rarely. In some cases the symptoms might appear in persons taking only three or four cups of coffee daily, but in these instances it would usually be found that very little nourishing food was taken. In acute coffee-poisoning there would be great excitability, or even delirium; in chronic coffee-poisoning the toxemia manifests itself as a depressing form of neurasthenia. Although the effects of the abuse of coffee had been known since 1705, the importance of the subject had never been adequately realized in this country. In only a few cases in his experience had bradycardia been present as a result of the abuse of coffee.

In the treatment of these patients he did not recommend in every case immediate or total abstinence. As a general rule, they should be limited to one cup of coffee in the morning, and its strength should be gradually reduced. An infusion of cocoa nibs taken in moderate quantity frequently proves acceptable as a substitute for coffee. There are many preparations on the market advertised as substitutes for coffee, but they consist of a very miscellaneous collection of substitutes. He had long since refrained from recommending any of them because their continued use had led to indigestion. Many persons in breaking off the coffee habit had thoughtlessly changed to cocoa, and had used it immoderately. As cocoa contains theobromin, which is almost identical chemically with caffein, the result could be easily imagined. Occasionally it would be necessary in these cases of coffee-poisoning to resort to the rest cure. In almost all cases a cure could be effected in from three to six months.

Therapeutics.

Hemorrhoids.

Hemorrhoids are tumors composed of the varicose dilatation of the hemorrhoidal veins, either externally or internally. Internal hemorrhoids differ from external only in that they are covered with mucous membrane instead of skin, and have a greater tendency to hemorrhage. The chief predisposing cause is the absence of valves in the hemorrhoidal veins. The direct causes are the mechanical influences which obstruct the circulation, such as sitting in the erect position; sedentary occupations; such a mode of life as leads to a constant hyperemia of the lower portion of the rectum; overeating; over-drinking of alcoholic liquors; pregnancy; excessive use of purgatives; constipation, which is usually the exciting cause of an attack, and disturbances of the liver. The important symptoms are the indications of irritation, such as itching, burning, throbbings about the anus or paroxysms of pain, and, in case of internal piles, hemorrhage is of frequent occurrence. The treatment consists to a great extent in proper regulation of diet, daily evacuation of the bowels, which should be of a soft, mushy consistence, and the proper amount of exercise. When the tumors protrude, they should be replaced slowly while the patient is stooping, first coating them with sterilized vaselin or cocoa butter.

OINTMENTS FOR EXTERNAL PILES.

℞.	Chrysarobin	gr. xv	1	
	Iodoformi	gr. v		3
	Ext. belladonnæ	gr. x		66
	Vaselini	ʒiv	16	

M. Ft. unguentum. Sig. Apply locally night and morning, first cleansing the parts well with water.

AS A LINIMENT.

Adler, in the *Cincinnati Lancet-Clinic*, states that external hemorrhoids, when inflamed or otherwise, can always be painlessly removed under cocain anesthesia, and it is at the time that they are inflamed that the operation does most good, for it not only radically removes the trouble, but it quickly alleviates the intense suffering which their presence otherwise occasions. As a liniment he recommends the following:

℞.	Ext. hamamelidis fluidi			
	Ext. hydrastis fluidi			
	Tinct. benzoini comp., āā	ʒiv	16	
	Tinct. belladonnæ	ʒi	4	
	Olei olivæ carbol—5 per cent	℥i	32	

M. Sig. Apply locally twice a day.

TO ALLAY THE IRRITATION AND ITCHING.

℞.	Extracti opii			
	Extracti belladonnæ, āā	gr. vii		4
	Lanolini	℥i	32	

M. Ft. unguentum. Sig. Apply locally.

OINTMENT.

Monroe, in the *Lancet-Clinic* gives the following ointment for the relief of his patients suffering from external hemorrhoids:

℞.	Opii pulv.	ʒi-ʒii	4-8	
	Acidi tannici	ʒi	4	
	Bismuthi subnitratis	ʒii	8	
	Adipis—borated	℥ii	64	

M. Ft. unguentum. Sig. Spread on a thick cloth or lint; apply to the anus and fasten with a bandage.

COLLODION APPLICATIONS.

Samways, in the *British Medical Journal*, advises application of collodion for the itching. It also causes the pile to contract. It should be applied on a little cotton after defecation, morning and evening.

PREVENTION OF HEMORRHOIDS.

Matthews, as reported in *The Medical Standard*, states that the best agent for the preventive and palliative treatment of internal hemorrhoids is cold water. Do not allow the patients to inject hot water into the rectum; it causes a distention of the veins and further protrusion of the hemorrhoids. Cold contracts, therefore, if your hemorrhoidal patients will drink a mineral water to keep the bowels open, will apply cold water to the mass after the bowels move, and will inject moderately cold water into the rectum to aid every movement, they will get good results. If some ointment is desirable, the following is suggested by him:

℞.	Hydrarg. chloridi mitis	gr. xl	2	66
	Morphinæ sulphatis	gr. vi		36
	Cocainæ muriatis	gr. xii		72
	Vaselini	℥i	32	

M. Ft. unguentum. Sig. Apply locally night and morning. This is especially indicated when pain is present.

ITCHING HEMORRHOIDS.

For the itching or in cases of pruritus, the following is of value:

℞.	Menthol	ʒss-i	2-4	
	Vaselini	℥i	32	

M. Ft. unguentum. Sig. Apply locally when necessary to relieve the itching.

CHRYSAROBIN IN HEMORRHOIDS.

Chrysarobin has been highly recommended by such men as Pounne, Boas and others. The following formulæ, containing this preparation, may be found useful:

AS A SUPPOSITORY.

℞.	Chrysarobin	gr. i		06
	Iodoformi			
	Ext. belladonnæ, āā	gr. 1/3		02
	Cacoa butter	gr. xxx	2	

M. Ft. suppos. No. i. Sig. One such suppository two or three times a day for internal hemorrhoids.

TO CONTRACT THE NODULES.

Ewald states that the tumors may be touched with the following solution, which tends to make them more tough and resisting, and may contract the smaller nodules:

℞.	*Potassii iodidi*	gr. xxx	2	
	Iodi	gr. iii		2
	Glycerini	ʒx	40	

M. Sig. As a local application.

SUPPOSITORY.

The Nord. Medicale gives the following formula for local application to hemorrhoids:

℞.	Cocainæ hydrochlor.	gr. xii		72
	Ergotinæ			
	Ichthyoli, āā	ʒi	4	
	Hydrarg. chloridi mitis	gr. xl	2	66
	Vaselini			
	Lanolini, āā	℥ss	16	

M. *Sig.* A portion as large as a small hazelnut to be inserted into the rectum *after each evacuation.*

INTERNAL HEMORRHOIDS.

Internal hemorrhoids which may be situated as high up as the sigmoid flexure are more difficult to deal with on account of the tendency to hemorrhage, which usually is not severe, but at times may cause great alarm. When they protrude reduction must be made carefully and slowly. Pain is present and at times severe. The most intelligent treatment under such circumstances is rest in bed, the application of cracked ice or heat in the form of hot fomentations or hot poultices made up of linseed or cornmeal or onions. Rectal injections of water at a temperature of 40 or 50 F. may be used to check the inflammation and arrest the hemorrhage.

FOR THE HEMORRHAGE.

Ewald recommends for the hemorrhages pieces of ice passed into the rectum, which is usually sufficient. Injections of astringent solutions of tannic acid 1 to 2 per cent., alum 1 to 3 per cent., acetate of lead .2 to .5 per cent., nitrate of silver .5 to 1 per cent. are also valuable.

In alarming hemorrhages it is advisable to insert tampons of absorbent wool—not cotton—saturated with a 10 to 20 per cent. aqueous solution of ferropyrin or the distilled extract of hamamelis. Wool is preferable to cotton, as it remains softer and more elastic, while cotton tampons become hard upon pressure. Opium should be given to check peristalsis. The tampon should be removed in two or three days and followed by the administration of a small dose of castor-oil or some of the saline laxatives, such as Hunyadi or vichy water.

TO OVERCOME CONSTIPATION.

Constipation should be corrected in any form of hemorrhoids. The pulvis glycyrrhizæ comp., in moderate doses, is of use under such circumstances. A preparation containing equal parts of sulphur and cream of tartar prescribed as follows, is successful in overcoming the constipation:

℞.	Sulphuris precipitatæ			
	Potassii bitartratis, āā	ʒvi	24	

M. Ft. chartulæ No. vi. Sig. One powder on rising in the morning.

Mercury in the form of hydrargyri chloridum mite in small doses is indicated when the portal circulation is sluggish. Preparations containing aloes should never be administered to patients with any signs of hemorrhoids, as aloes, even when given in moderate doses, acts almost entirely on the lower bowel, producing a congestion of its mucous membrane.

CALOMEL TREATMENT.

Detrue, in *The Medical Record*, gives the following prescription containing calomel as an ointment in hemorrhoids:

℞.	Hydrarg. chloridi mitis	gr. xxx	2	
	Morphinæ hydrochloratis	gr. 1/3		02
	Bismuthi subnitratis,			
	Vaselini, āā	℥vi	24	
	Glycerini	℥ii	8	

M. Ft. unguentum. For local application to the protruding tumors.

AS AN ANTISEPTIC.

℞.	Balsami peruviani	gr. ii		12
	Acidi borici	gr. xlv	3	
	Vaselini	℥ss	16	

M. Sig. Apply locally.

[Balsam of peru contains benzoin preparations, which are antiseptic and astringent.]

FOR BLEEDING INTERNAL PILES.

Hare gives the following formula containing gallic acid as an ointment in bleeding internal piles, and if painful from ulceration an iodoform suppository should be used:

R.	Acidi gallici	gr. x		66
	Extracti opii			
	Ext. belladonnæ. āā	gr. iv		24
	Ung. simplicis	℥iv	128	

M. Sig. Apply night and morning.

He states that great care should be used in manipulating bleeding piles, and, if of the external variety, no attempt should be made to push them inside the sphincter ani, which would constrict them.

INJECTION TREATMENT.

It has not been long since treatment of hemorrhoids by injections was in favor, and it is still being used by a great many physicians. The results and complications which very frequently follow such procedures, such as extensive inflammation and sloughing, should put us on our guard and cause us to practice economy in the employment of this line of treatment. Injections should certainly never be made when the tumors are inflamed or strangulated, as they will cause increase in the pain and swelling and tend to abscess formation.

Below are formulæ for injections that are being employed, although we do not believe that the injection method of treatment is endorsed by many scientific physicians or surgeons:

R.	*Acidi carbol.*	gr. xii		72
	Glycerini			
	Aquæ destil, āā........................	℥i	4	

M. Sig. Inject two to five minims into each hemorrhoid; or

℞.	Alcoholis—pure	m. x-xx		6-1.33
	Acidi carbolici	m. ii-v		12-.30
	Aquæ, q. s. ad	℥i	4	

M. Sig. Two to three minims to be injected along each pile as the needle is withdrawn and not more than three hemorrhoids to be injected at one treatment. If the patient is a laboring man treat only one at a time; or

℞.	*Zinci chloride*	gr. x		66
	Cocainæ hydrochloratis	gr. iv		25
	Aquæ destil..........................	℥ss	16	

M. Sig. Inject a full hypodermic syringe of this solution into the hemorrhoid; or

℞.	Acidi carbol.			
	Acidi salicylici, āā	℥iss	6	
	Sodii boratis	℥i	4	
	Glycerini	℥i	32	

M. Sig. Inject two to four minims into each hemorrhoid.

Medicolegal.

Liability of County for Care of Needy Insane.—The Supreme Court of Ohio holds, in the case of the Commissioners of Cuyahoga County vs. the City of Cleveland, that, under the Ohio statutes, the burden of caring for insane persons in needy circumstances who can not be admitted to an asylum rests upon the county in which they have their legal settlement.

Failure to Furnish Agreed Medical Attendance.—The Appellate Court of Indiana holds, in the case of the American Tin Plate Company vs. Guy, that where an employer agrees to furnish competent medical and surgical services to an employee *and his family, in consideration of a certain sum deducted* therefor from his wages, the employee has a right to rely upon *the contract, and, if he is injured by the negligent failure of* the employed to perform its part of the contract, then the employer must be responsible in damages.

As to Child Resembling Alleged Father.—The Supreme Court of Minnesota holds that it was improper, as tending to *prejudice the jury, for the prosecuting attorney to call the at*tention of the jury, in the bastardy case of State vs. Brathovde, to the supposed resemblance of the child in question, a babe in arms, which was only about three months old, to the defendant, who was charged with being its father. The supreme court observes that it is a common saying that all young babies look alike, and thinks that such an invitation would but tend to give free scope to the imagination, in attempting to test the attorney's suggestion.

Must Keep Asylum Going.—The second appellate division of the Supreme Court of New York holds, in the case of McBride vs. the City of New York, that the department of charities of the city having had imposed upon it the duty of maintaining an asylum for the care of sick children was justified in appointing a nurse to meet an exigency, after it had been informed by the secretary of the civil service commission that *it had no list of eligibles, and the city must pay the salary,* although the position was under civil service. The object of the civil service law, the court says, is to increase the efficiency of the civil service, and it declares that it can not construe it as intended by the legislature to bring an end to the business of caring for children in the asylum. The duty imposed upon the department to make provision for continuing the asylum is a public one, to which the administration of the civil service law is ancillary. It was fulfilled by the appoint*ment of the nurse.*

No Defense to Crime That Life Might Have Been Saved.—The Supreme Court of Missouri, Division No. 2, holds that there was no error in the trial judge instructing the jury, in the homicide case of State vs. Lane, that if they believed and found from the evidence that the death of the man in question resulted from the effects of a blow upon the head inflicted by the defendant with a pistol they could not, in arriving at their verdict, take into consideration the fact, if fact it was, that the man's life might have been saved, after the infliction of the blow, by a proper medical or surgical treatment. The court points out that no effort had been made to show any maltreatment of the wound, or any misconduct on the part of the deceased with reference to his wound, and that the evidence of all the physicians was to the effect that the wound caused the death. Then it adds that the judge was right in telling the jury in plain language that the post-mortem discovery that trephining at the proper time would have saved the life of the deceased was no defense whatever to the charge of homicide.

Father's Liability for Attending Child With Mother.—The second appellate division of the Supreme Court of New York declared, in the case of Dixon vs. Chapman, that it can not be the law that a physician called upon to attend an infant child by the mother is chargeable with constructive notice of the actual relations existing between the father and mother of the child, in the absence of actual notice of the facts. Moreover, it holds that it is a general rule that, if a husband living separate from his wife suffers his children to reside with their mother he is liable for necessaries furnished for them on her contracts, for as a father he has the right to the custody of the children, and may, in a proper case, obtain possession of their persons by habeas corpus; and where he does not assert that right, but suffers them to remain with their mother, he thereby constitutes her his agent to procure necessaries for them. So, in this case, the court affirms a judgment against the father for the value of medical services rendered in and about the treatment of his infant daughter, where there was in fact no evidence that the physician knew until he had rendered most of the services that the father and mother were living apart and the circumstances were such that a court would have been justified in finding that the parties were not actually separated, the father returning home about once in two weeks.

May Testify as to Acts and Exclamations of Patient.—The second appellate division of the Supreme Court of New York holds, in the case of Zingrebe vs. the Union Railway Company, that a physician may tell the jury exactly what occurred in relation to a physical examination made for the purpose of testifying in a case, in so far as these occurrences are confined to the acts and exclamations of the patient, and do not embrace statements made by the patient to the physician. It would be absurd, it thinks, to say that the physician might tell the jury, for example, as in this case, that he "pressed upon the intervertebral spaces," without telling them what results followed such pressure, as that the patient would flinch, her face would be drawn up with an expression of agony, and she would make exclamations. Here the patient was blindfolded while undergoing the examination. And the court considers that the testimony of the physician as to his observations of the patient and of her conduct at the time was properly admitted in an action brought by her husband to show the jury the extent of her injuries charged to the negligence of the defendant, not as a basis of damages, but as establishing to what extent he had been, and was likely to be, deprived of the aid, comfort and society of his wife. It also holds evidence of her pain and suffering admissible for the same purpose, and concludes that $7,250 is not excessive compensation for a man 47 years of age, with his wife about one year older, destined to go through the remaining years of his life with a wife who is not likely to contribute anything of importance to his aid, comfort or society.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, January 12.

1 *Prevention and Management of Infection of the Breast During Lactation. C. S. Bacon.
2 *The Question of Operation for Appendicitis. Forbes Hawkes.
3 The General Principles of Infant Feeding, with a Simple Method of Home Modification of Cow's Milk. L. Emmett Holt.
4 *Dyspeptic Asthma. Frank H. Murdoch.
5 *Some Remarks upon Tuberculosis in Bone. Edmund Owen.
6 *A Case of Gangrenous Inflammation of Meckel's Diverticulum Simulating Appendicitis. C. R. Darnall.

Philadelphia Medical Journal, January 12.

7 A Case of Urethrorectal Fistula Cured After a Third Operation. Orville Horwitz.
8 *Fallacies Concerning the Menopause. Geo. E. Shoemaker.
9 Wound of the Trachea, with Suture and Union by First Intention. E. S. Goodhue.
10 Leukemia and Splenic Pseudoleukemia. Everett J. Brown.
11 *Suggestions on the Treatment of Whooping-Cough. H. F. Thompson.
12 *Re-expansion of the Uterus in Labor. D. Benjamin.
13 *The Disinfection of Infected Typhoid Urines. Norman B. Gwyn.
14 Administrative Control of Tuberculosis. Collins H. Johnston.

Medical Record (N. Y.), January 12.

15 *Coffee as a Beverage, and Its Frequent Deleterious Effects upon the Nervous System: Acute and Chronic Coffee Poisoning. William M. Leszynsky.
16 *An Improved Method of Perforating Suprapubic Cystotomy. C. L. Gibson.
17 *Some Remarks on the Modern Surgical and Medical Treatment of Epilepsy. L. Pierce Clark.
18 Report of a Case of Primary Glioma of the Optic Nerve. Redmond W. Payne.
19 *The Choice of Suture for the Patella. Edwin M. Cox.

Medical News (N. Y.), January 12.

20 *Splenic Anemia—Anemia with Enlargement of the Spleen. Aloysius O. J. Kelly.
21 *Some Diagnostic Details. W. Edgar Darnall.
22 *On Gonorrheal Cystitis in the Female. F. Bierhoff.
23 Severe Acute Pleurisy, Followed by Phlebitis; Death from Embolism. Charles R. Jackson.
24 Case of Dextrocardia. Homer M. Thomas.

Boston Medical and Surgical Journal, January 10.

25 A Short Account of the Recent International Medical Congress in Paris. Henry B. Jacobs.
26 *The Radical Treatment of Lachrymal Diseases. Walter B. Lancaster.
27 An Operation for Cataract. Edward L. Parks.
28 *Remarks upon Spinal Cocainization Suggested by Cases Seen at Tuffier's Clinic in Paris, August, 1900. Maurice H. Richardson.
29 *The Purulent Rhinitis of Children as a Source of Infection in Cervical Adenitis. Carolus M. Cobb.

Cincinnati Lancet-Clinic, January 12.

30 A Study of Nosology and Its Relation to Treatment. Brose S. Horne.
31 *An Easy Method of Demonstrating the Presence of Tubercle Bacillus. C. Lee Graber.

St. Louis Medical Review, January 12.

32 Cancer of the Cecum in a Young Adult. T. C. Witherspoon.
33 Pathologic Features of Dr. Witherspoon's Case of Cancer of the Cecum. Willard Bartlett.

American Practitioner and News (Louisville, Ky.), Dec. 15, 1900.

34 The Ideal Private Nurse in Country Practice. E. J. Kempf.
35 Pernicious Vomiting of Pregnancy. Steele Bailey.
36 Some Apparent Trifles. (Foreign Bodies in the Ear, Alveolar Hemorrhage, etc.) W. W. Ray.

Annals of Surgery (Philadelphia), January.

37 *Ventral Hernia Following Abdominal Section. B. Brindley Eads.
38 *On Traumatic Keloid of the Median Nerve, with Observations upon the Absorption of Silk Sutures. Otto G. T. Kiliani.
39 An Intestine Holder. Edward H. Lee.
40 *Laryngectomy under Eucain Anesthesia, with Remarks on the Technique of the Operation. Gwilym G. Davis.
41 *Double Ureter. Report of a Nephrectomy Done upon a Young Child with This Condition Present. John Edward Summers, Jr.

Woman's Medical Journal (Toledo, Ohio), December, 1900.

42 Smallpox. Ellen Heise.
43 The Physician's Influence in re Vacation Schools. Helen C. Putnam.

Medical Review of Reviews (N. Y.), Dec. 25, 1900.

44 Medical Evidence. R. L. Pritchard.

Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), January.

45 *Giant Cells. B. H. Buxton.
46 *Blastomycetic Dermatitis and Its Relation to Yaws—A Case in Point. Isadore Dyer.
47 *Three Cases of Blastomycetic Infection of the Skin: One Case Limited to a "Tumor" of the Lower Lip. Frank H. Montgomery and Howard T. Ricketts.
48 A Report of Two Cases of Blastomycosis of the Skin in Man, with a Survey of the Literature of Human Blastomycosis. James N. Hyde and Howard T. Ricketts.

Canadian Journal of Medicine and Surgery (Toronto), January.

49 *Gasoline in Surgery. Bruce L. Riordan.
50 Athetosis, or Mobile Spasm. Alexander McPhedran.
51 Hyperextension of the Spine in the Treatment of the Paralysis of Pott's Disease. H. P. H. Galloway.

Yale Medical Journal (New Haven, Conn,), January.

52 *On the Radical Cure of Femoral Hernia by Means of Gordon's Operation. Leonard W. Bacon, Jr.

Pennsylvania Medical Journal (Pittsburg), December, 1900.

53 Annual Address on Hygiene at the Medical Society of the State of Pennsylvania. J. T. Rothrock.
54 The Question of the Enforcement of the Medical Law of the State of Pennsylvania. William H. Dudley.
55 Heat Stroke and Heat Exhaustion. C. C. Hersman.
56 The Human Temperaments and Their Application in Medicine. J. C. Bateson.
57 Some Medicolegal Cases. T. M. T. McKennan.
58 Four Phthisical Remedies Which Have Proved Most Valuable in the Author's Experience. Thomas J. Mays.
59 Applied Anatomy: Its Value, and Place in the Medical Curriculum. Gwilym G. Davis.
60 A Removable Buried Suture for Abdominal Incision. Evan O'Neill Kane.
61 A Note on Diagnosis of Ectopic Gestation. J. M. Baldy.

Maryland Medical Journal (Baltimore), January.

62 *The Prospect in the Treatment of Lobar Pneumonia. Thomas R. Brown.
63 *The Value of Formaldehyde in the Treatment of Suppurative Otitis Media. H. O. Reik.
64 *A Case of Cholelithiasis Showing Pure Culture of Typhoid Bacilli without Antecedent Typhoid Fever. C. W. Mitchell.

Cleveland Medical Gazette, January.

65 Complications During Appendicitis. (Continued.) Morris D. Stepp.

66 Appendicitis and Typhoid Fever. Charles J. Aldrich.
67 Appendicitis in Children. Joseph V. Kofron.
68 Appendicitis and Pelvic Diseases. R. E. Skeel.
69 Surgical Intervention in Appendicitis from the Physician's Standpoint. John H. Lowman.
70 Hernia Following Operations for Appendicitis; Causes and Means of Prevention. C. A. Hamann.

SYMPOSIUM ON NEPHRITIS.

71 A Short Memoir of Dr. Richard Bright. H. E. Handerson.
72 Pathology. R. G. Schnee.
73 Etiology. A. W. Lueke.
74 Sterility. Lillian G. Towslee.
75 Medical Science at the Close of the Nineteenth Century. J. F. Purviance.

Bulletin of the Johns Hopkins Hospital (Baltimore, Md.), December, 1900.

76 *Theodor Billroth, Musical and Surgical Philosopher. A Biography and a Review of His Work on Psycho-Physiological Aphorisms on Music. John C. Hemmeter.
77 *Report on the Examination of the Ears of 440 School Children. H. O. Reik.
78 *Experimental Injection of Testicular Fluid to Prevent the Atrophy of the Prostate Gland in Dogs, after Removal of the Testes. George Walker.
79 *A Plea for Early Naked-Eye Diagnosis and Removal of the Entire Organ, With the Neighboring Area of Possible Infection in Cancer of the Larynx. John N. Mackenzie.
80 Heredity in Diabetes Mellitus, with a Report of Six Cases Occurring in a Family. J. Hall Pleasants.

St. Louis Medical and Surgical Journal, January.

81 Early American Medicine. James Moores Ball.
82 In Explanation of the Ancient Peruvian Vases, Which Represent Mutilated Human Figures. Dr. Richter.
83 The Importance of Perfect Digestion. Wm. Hooker Vail.
84 Antiquity of the Endermic Use of Mercury Through Acupuncture, Hollow Needle, in China and Japan. Albert S. Ashmead.

Obstetrics (N. Y.), December, 1900.

85 *Cephalic Version. F. Horn.
86 A Case of Ectopic Pregnancy. F. W. Samuel.
87 Premature Dilatation of the Cervix in a Case of Multiple Pregnancy. Ewing Marshall.

Love's Medical Mirror (St. Louis), December, 1900.

88 *What the Law Requires of the Surgeon. Dudley S. Reynolds.
89 *Drainage in Abdominal Surgery. J. W. Long.
90 Renal Calculi, with Report of Cases. Stuart McGuire.
91 Oberammergau: Its Play and Its People. J. L. Boogher.

St. Paul Medical Journal, January.

92 *Some Common Diseases of the Stomach and Their Surgical Treatment. William J. Mayo.
93 *Bacteriology of the Alimentary Canal. H. S. Martin.
94 Abscess of the Liver. W. H. Magie.
95 *The Value of Cataphoresis in Caries and the Temporal and Other Bones. Cornelius Williams.
96 Case of a Foreign Body in a Bronchus Successfully Treated by Intratracheal Injections. H. Longstreet Taylor.
97 Myositis Ossificans Progressiva. Christopher Graham.
98 Operation for Rectal Cancer Under Spinal Anesthesia. George T. Ayres.
99 Rectal Fistula Operated Under Subarachnoid Cocain Anesthesia. C. F. Haisch.

Columbus Medical Journal, December, 1900.

100 Extrauterine Pregnancy, Report of a Case Diagnosed Before Rupture. Cause: An Accessory Ostium Abdominale. J. H. J. Upham.
101 Empyema of Sphenoidal Sinus; Special Instruments for Operating; Reports of Cases. H. J. Custer.
102 Synovitis of the Knee. J. C. Lawrence.
103 Remarks on Tetanus. L. Woodruff.
104 Surgery of the Nineteenth Century. W. J. Means.
105 A Century's Progress in Ophthalmology, Otology, Rhinology and Laryngology. John Edwin Brown.
106 Gains of the Century in Neurology. Eugene G. Carpenter.

Northwestern Lancet (Minneapolis), January 1.

107 *Spring or Vernal Catarrh. Frank Allport.
108 Fistula in Ano—Tubercular Fistula of the Neck. James H. Dunn.
109 The Radical Treatment of Hernia. James E. Moore.
110 Maternal Impressions. H. L. Staples.

Medical Dial (Minneapolis), January.

111 *Traumatic Injuries of the Ureter. J. W. Macdonald.
112 Bacteriological Diagnosis of Diphtheria. J. Frank Corbett.
113 Elephantiasis of the Prepuce. James W. Robertson.
114 The Surgeon in War. Charles E. Hands.
115 The Diagnosis of Pott's Disease. H. Gibney.

New Orleans Medical and Surgical Journal, January.

116 Hypospadias and Epispadias, with Special Reference to Their Operative Treatment. F. W. Parham.
117 Spinal Anesthesia in Rectal Cases. Chas. Chassaignac.
118 A Case of Laryngeal Diphtheria—Tracheotomy—Antitoxin Injections—Recovery. The Importance of an Early Diagnosis of Hereditary Syphilis. A Case in Point. John F. Ochsner.

International Journal of Surgery (N. Y.), January.

119 *Practical Suggestions upon the Treatment of Rectal Disease. (To be continued.) James P. Tuttle.
120 *Appendicitis. B. Brindley Eads.
121 The Technique of Surgical Gynecology. (Continued.) Augustin H. Goelet.
122 Nose and Throat Work for the General Practitioner. George L. Richards.
123 Regional Minor Surgery. (Continued.) George G. Van Schaick.
124 Pseudo-Membranous Enteritis and Its Relation to Abdominal Surgery. Frank A. Glasgow.
125 Observations in Some Paris and London Hospitals. B. R. Wakeman.
126 Some Remarks on the Treatment of Fractures. Thos H. Hancock.
127 After-Effects of the Unconscious State on the Memory. W. M. Cunningham.
128 *The Injured Tramp—Who Is Responsible for Him? F. Julian Carroll.
129 Traumatic Stricture of the Urethra. B. R. Wakeman.
130 Compound Fracture of the Hand—Multiple Fracture. W. W. Harper.
131 "Conservative Surgery of the Hand and Arm." H. C. Chance.

Atlanta Journal-Record of Medicine, January.

132 Medical Gymnastics. Theodore Toepel.
133 Membranous Croup—Diphtheritic Laryngitis. S. A. Visanka.
134 Ammoniated Tincture of Gum Guaiac in the Treatment of Females. N. F. Howard.

Therapeutic Gazette (Detroit, Mich.) December 15, 1900.

135 The Treatment of Burns and Scalds of the Eye. William C. Posey.
136 *Antitoxin and Intubation, with a Report of a Second Series of One Hundred Operations. Burt R. Shurly.
137 *The Use of Suprarenal Extract in Diseases of the Middle Ear. Lewis S. Somers.
138 *The Value of Trichloracetic Acid in Surgical Practice. David T. Huston.
139 A Study of Some Heart Lesions and of Some of the Measures for Their Relief. (Continued.) H. A. Hare.

Georgia Journal of Medicine and Surgery (Savannah), December, 1900.

140 Subarachnoid Injection of Cocain Muriate for Surgical Anesthesia in Operations Below the Diaphragm. Illustrated by a Successful Case of Erasement of Hip-Joint. Hugh M. Taylor.
141 *Drainage in Abdominal Surgery. J. W. Long.
142 *The Removal of Pelvic Inflammatory Masses by the Abdomen After Bisection of the Uterus. Howard A. Kelly.
143 The Treatment of Specific and Non-Specific Vaginal Catarrh. Charles W. McIntyre.
144 Is Tuberculosis Hereditary? M. X. Corbin.
145 Bronchitis and Bronchopneumonia. A. Von Grimm.

Charlotte Medical Journal, December, 1900.

146 *The Hospitals of Japan. Edward C. Register.
147 Etiology of Pleurisy. C. P. Ambler.
148 *Remove the Special License Tax. J. Beverly DeShazo.
149 Early Diagnosis of Pulmonary Tuberculosis. A. A. Young.
150 Cerebrospinal Meningitis. W. J. Crittenden.
151 *Pernicious Malaria in Infants.* John Zahorsky.
152 *Drainage in Abdominal Surgery. J. W. Long.
153 Treatment of Retrodisplacements of the Uterus. Edward McGuire.
154 The Use of Food as Medicine. J. Frank Kahler.
155 A Puzzling Case. (Gangrene of the Bowels.) E. H. Trickle.
156 Some Interesting Experience in the Use of Suprarenal Liquid with Chloretone in Three Cases. Willard Chaney.

Medical Times (N. Y.), January.

157 The Mount Bleyer Electro-Arc-Chromolumes for Generating Colored Light as an Adjunct to the Regular Treatment of Tuberculosis. J. Mount Bleyer.
159 Insanity in Its Relation to Crime. Chancey Adams.
160 Tuberculocidin in the Treatment of Tuberculosis. C. M. Holcomb.
161 The Curability of Bright's Disease. Elmer Lee.
162 Some Experiences with Heroin. I. J. Martinson.

AMERICAN.

1. **Infection of the Breast.**—Bacon first calls attention to the difference between infection and simple hyperemia or congestion of the breast which attends the establishment of milk-secretion or prolonged intervals between nursing. Infection of the breast, on the other hand, is generally attended with fever, and the milk fever so-called is now known to be genital wound

infection. The increase of temperature accompanying the establishment of secretion is too slight to be called fever. The question as to the mode of infection, whether through lymphatics or milk-passages, is mentioned and the importance of diagnosis between breast infection and genital wound infection is also insisted upon. The distinction must be made by a study of the prominent local symptoms. The greatest difficulty is experienced when symptoms of infection coincide with pelvic tenderness and the determination may take some time. Another important point is whether an abscess has formed; the center of infection is often quite deep and determination of fluctuation difficult. If fever or local pain continue for more than two or three days diagnostic puncture should be employed. The mode of breast infection is usually either through contact by handling of the nipples, etc., or through the child. Precautions consist in washing it in clean water before nursing and after nursing, in 75 per cent. alcohol to prevent simple abrasion or accidental infection from the mouth or skin of the child and in always covering with sterilized gauze to prevent contamination with soiled garments or bed clothing. Alcohol is used as a disinfectant because it is not harmful. Other disinfectants, such as boracic acid, are of very little disinfectant value, while carbolic acid or sublimate are poisonous. The shape of the nipple will also have much to do with infection. If too short or too small or misshaped it is more liable to be wounded during nursing. When nipple wounds become infected, and before symptoms of general infection, they may be treated as in similar wounds of other parts of the body. A little cotton saturated in alcohol is generally sufficient. Nursing through a shield may be allowed. Chills and fever generally indicate deep infection, and when they appear nursing should be entirely stopped and the breast supported and put to rest by proper bandage. Treated in this way, 80 to 90 per cent. of all breast infections will terminate without abscess. The different forms of bandage are described and a valuable adjunct to the treatment is application of cold by the ice-bag. If, in spite of all treatment, some tenderness remains and suspicion of fluctuation exists, with slight increase of temperature, the hypodermic needle should be inserted. If any abscess is present, however small, it should be opened at once. If we are in doubt as to the presence of abscess a continuance of the bandage support and the ice-bag can do no harm and is the best possible treatment. Opening of the breast is a painful operation and greatly dreaded, and Bacon recommends infiltration anesthesia, after first washing out with sterilized water, and a few sterilized threads used for drainage and antiseptic dressing applied and breast bandage and drain removed in twenty-four hours. The wound is kept open by irrigation for a day or two longer, and will close of itself.

2. **Appendicitis.**—The symptoms considered bad by Hawkes are: A rectal temperature of over 102 F.; a pulse of over 100 (if the patient is not distinctly neurotic or hysterical), or a poor pulse of any frequency whatever—and especially a pulse in which there is any tension; a thoracic respiration of over 34 (if the patient is not distinctly neurotic or hysterical); a sick appearance of the patient at any time; continued vomiting at any time; more than moderate abdominal pain; more than slight rigidity; any distention whatever; marked sweating; a chill; the slightest dilated condition, not previously present, of the superficial abdominal veins on the right side of the umbilicus, or the slightest pitting of the skin in this region on pressure; marked increase in frequency of micturition (indicating usually a long appendix reaching into the bladder region—such an appendix will almost always be found markedly inflamed); the slightest jaundice; constipation not relievable by enemata; hiccough; a sudden drop of temperature or of pulse-rate in a patient who has been sick for twenty-four hours or more (this usually means perforation with beginning general septic peritonitis); an increasing leucocytosis. He would not wait until he gets two or three of these. The presence of one of these should point the way to the operation. He is inclined to think that in every case, excepting in the mild catarrhal type of appendicitis, we shall have at least one bad sign or symptom to put us on our guard. He advises operation in all acute cases excepting those mild ones in which when first seen the patient is evidently recovering. He wishes there were a way of ascertaining in each instance whether the case will subside or not. If he sees a case for the first time after every one of the so-called bad symptoms have subsided he will be willing to allow the patient to go on to recovery without operation, having a leucocyte count made at short intervals and the patient watched very closely. The old idea about there being a time when operative procedures were in themselves more dangerous and likely to spread infection has been thoroughly proved to be erroneous. It is not the time and occurrence of attack that makes the difference, it is the operator's methods. As to the length of time that it is safe to wait after the attack has subsided, his own preference is to wait not longer than ten days. The more cases of appendicitis one sees the more conservative one becomes, using the term conservative in the sense of not allowing the patient to drift along in the channels where soundings are impossible, and where at any time, suddenly and with little or no warning, the rocks may be struck and a total wreck result. The painstaking surgeon without question saves more of his patients by operation than by any other method.

4. **Dyspeptic Asthma.**—Murdoch reports five cases of asthma suffering from various gastric disturbances, not one of whom complained of stomach symptoms, but wished only to be relieved of the distressing shortness of breath from which they suffered. Chronic dyspeptic asthma is therefore not associated with any one form of stomach trouble in particular, but primary relief can only come from restoring the digestive organs to a healthy condition.

5. **Bone Tuberculosis.**—Owen says that tuberculosis, like syphilis, is specially apt to attack the bones, but unlike the latter, it prefers the delicate growing end of the diaphysis or the spongy tissue of a small bone. He confines his remarks here, however, to tuberculous disease of the bones in the hands and feet and what he calls ultra-conservative treatment of the bones and joints. The general tenor of his article is that we are sometimes apt to carry conservative treatment too far, though he would not be considered an advocate of radical treatment in all cases, and if he makes a mistake he thinks it is in the cause of conservatism. Nevertheless, he says he has performed Symes' amputation in a very large number of cases of tuberculous disease of the tarsus in hospital work and has not had any reason to regret it in one instance.

6. **Diverticulitis.**—Darnall describes a case of inflammation of a Meckel's diverticulum, six inches in length, rising from the ileum about three and one-half feet from the ileo-cecal valve. The operation was performed for appendicitis, but this was the condition found. He is inclined to think the diverticulum here was primarily affected and the morbid process analogous to that occurring in acute gangrenous appendicitis.

8. **Menopause.**—The fallacies noted by Shoemaker are the common notion that hemorrhage above the ordinary is an essential and common feature of the normal menopause, and its consequences in the neglect of important pathologic symptoms. He thinks that the physician will avoid a blunder which will afterward be expensive to himself and to his patient if he will proceed to find out at once whether or not she is flowing too much by questioning along the following line: What is the normal of that patient in normal health? How many days' flow? The approximate time when she left the normal; question whether the flow is progressively increasing or more frequent, the amount, as far as possible, being given in figures. It will often be found that the patient has bled almost daily for many months. It may show that no periods have been actually missed or that cessation definitely occurred and in a year or more flowing began again. In this last case some form of malignant disease is almost invariably present. The normal period, it should be remembered, lasts four or five days, and the interval should not be less than three weeks. Any marked deviation from the normal or physiological must extend back into early life. If examination is indicated, it should be made at once and thoroughly. Another fallacy is

that if fibroid tumors are growing or causing disturbances the patient will do well to wait for the menopause. This idea arose when the mortality after fibroid hysterectomy was over 50 per cent. The hope that the menopause will cure the case is in itself a fallacy, and he can not recall a case of uterine fibroid which gave trouble during menstrual life that was cured after the menopause, or in other words, where it paid to wait.

11. **Whooping-Cough.**—Thompson considers heroin a valuable therapeutic agent in this disorder, allaying cough and easing respiration, and it also renders easier the removal of mucous deposits on the posterior laryngeal wall, which will aggravate the attack.

12. **Re-expansion of the Uterus in Labor.**—Benjamin commences his article by saying: "I have come to the conclusion that the parturient womb during any stage of labor, and for a few hours following, can be expanded to about the same size as it was when labor began." He describes his method as follows: Supposing, for example, an extreme case in which the head was passed through the superior strait, and has become impacted low down in the pelvis in such a position that it can not escape through the inferior strait: Anesthetize the patient, bring the hips close to the edge of the bed, elevate them well above the level of the patient's shoulders, and put an assistant in charge of each leg. Having bared and sterilized your arm and hand and applied sterilized cosmolin, begin making firm pressure with the palmar surface against the presenting portion of the head in the direction of that portion of the axis of the pelvis occupied by the head; return it by exactly the route and flexions that it came, making firm, steady pressure between the pains and holding every fraction of an inch gained when the pain comes on until it is over. It will be found to give a little between each of the pains. The process is often a long and laborious one, and since the hands and arms are apt to tire out, advantage must be taken of each opportunity to rest them without losing ground, such, for instance, as propping the elbow against the knee, and foot against the wall, or in any other manner to take the strain off the muscles, and by occasionally changing hands or being relieved by an intelligent assistant. The womb will not only begin to elongate upward, but will seem to relax its efforts, so much so that the nurse standing by will sometimes exclaim, "The pains have left her," thus, gradually the head returns above the superior strait, making room for all purposes. You can now pass your hand around the child's head in all directions and absolutely confirm your diagnosis of the position, removing the cord from its neck in the womb if necessary, or, turning the body of the child, you can firmly grasp the head and turn it in the desired direction, assisted by the other hand on the outside of the abdomen. He illustrates the value of his method by reporting a case of re-expansion of uterus and return of the child's head when there was face presentation with chin posterior.

13.—See abstract in The Journal, xxxv, p. 1367.

15.—See Proceedings of New York County Medical Association.

16. **Suprapubic Cystotomy.**—Gibson's improvement on the method of suprapubic cystotomy refers specially to details of drainage and consists in applying practically what is Kader's operation to the bladder, making the valvular opening which can be catheterized, but which when left alone will close itself. The article is illustrated to efficiently explain the text. Kader's gastric operation, as well known, consists in inverting the edges of the incision and securing them by one or more rows of inversion sutures, leaving only a space sufficient for a drainage-tube, thus filling up the wall in such a way as to make a valvular opening.

17. **Epilepsy.**—Clark summarizes the present status of surgical treatment of epilepsy as follows: 1. Idiopathic epileptics with typical grand-mal seizures should never be trephined. 2. Idiopathics in whom seizures are of the Jacksonian type should be trephined only when infantile cerebral palsies can be excluded, and when the family and personal degeneracy is at a minimum; if operation is determined upon in such cases, a very thorough removal of the epileptogenic area should be made; even then but a fraction of one per cent. recover from their epilepsy. 3. Traumatic epileptics may be trephined when the injury is definitely proved and stands in direct causal relation and has existed not more than two years. The prognosis will then largely rest upon the degree of the neurotic predisposition present. The earlier trephining is resorted to after convulsions begin, the better the prognosis. If these rules are followed, many less so-called traumatic cases will be trephined, but the result will far exceed 4 per cent. of recoveries. All epileptics trephined for whatever cause must be given post-operative bromid treatment for years. As regards the medical treatment, he remarks that no one specific should be kept up too long, and points out the evils of bromid intoxication. He prefers to give the bromids in the form of emulsion with or without cod-liver oil, in which way he finds it less irritating and less toxic and more lasting in its effects. He summarizes the present-day medical treatment by bromid in the following statements: "1. By a combination of diet, regular occupation and personal hygiene, the bromids give the best results in treating idiopathic epilepsy. 2. The bromids, singly or combined, still remain our chief sedative for the epileptic state—in the young epileptic, to secure a possible entire suppression of attacks and ultimate cure of the disease: in the adult, an amelioration of frequent paroxysms and comparative physical and mental comfort. 3. The bromids, to be effective in chronic and longstanding cases, must be given in large daily doses to suppress convulsions, from gr. ccc-cd if necessary. They should be given gradually to find the sedative level, at which level it is the physician's principal duty to maintain them with physical and mental comfort to his patient. 4. Hot and cold baths, high enemas, alimentary antisepsis, and massage are absolutely essential to successful bromid medication. 5. Bromin is a worthy substitute for the bromids in many cases in which the latter are contraindicated or can not be given in high dosage. 6. Salt starvation or semi-salt starvation is a great adjuvant to the bromid treatment, and should be thoroughly tried in all cases in which bromids or bromin are apparently contraindicated before they are discarded."

19. **Patella Suture.**—Two cases are reported by Cox in which catgut sutures were used for uniting the fragments of the patella. He points out the possibility of irritation, etc., from the use of wire suture, and advocates the method here employed.

20. **Splenic Anemia.**—A case is reported in detail by Kelly, with remarks. It is of interest largely from the fact that it occurred in a young female. There was no pronounced enlargement of the lymphatics: enlargement of the spleen was not as great as has been reported by some and the hemorrhage was from the genitals. Dyspnea was extreme, at least in the latter portion of disease. The fever was high throughout the disease, though there were one or two inexplicable drops. The author makes no special statement as regards the nature of the disease, which he considers obscure. The assumption that the enlargement of the spleen is a feature is the only basis for the successful treatment thus far. The prospects of surgical treatment are perhaps the most hopeful, though as yet undeveloped.

21. **Some Diagnostic Details.**—A plea is made by Darnall for observation of physiognomy, more especially of the eye, of inco-ordination of the muscles, breathing, position, odors, and the better appreciation of temperaments. He thinks the physician should familiarize himself with these latter so that he may know just what allowances are to be made for each type.

22. **Gonorrheal Cystitis in the Female.**—Bierhoff's article reports five cases of gonorrheal cystitis occurring in a total number of 92 cases examined. He remarks on the pathologic conditions. In one the disease was that of the body of the bladder. The other four cases presented a cystoscopic picture of cystitis coli suppurativa. He believes that cystoscopy in the female is without the dangers attending it in the male, provided the examination is preceded and followed by proper measures. In every case, however, he would strongly

recommend the microscopic examination of the sediment before any treatment is begun. As regards treatment, he thinks we possess in protargol and largin two reliable products, which, if properly used, will do all that drugs can do, and we are not justified in delaying the commencement of treatment for a single day. Besides restriction of diet and the use of frequent hot Sitz baths, we may begin the use of such remedies in the proper strength in the form of urethral and vesical irrigation at once, some of the fluid being allowed to remain in the bladder each time. In all his cases he has been able to prevent the spread of disease beyond the parts originally affected. The patients should not be dismissed, however, until the urethral discharge has completely disappeared and remains absent, even after provocatory tests, and until the urethral scrapings are epithelial in character and nearly free from gonococci, the urine normal and the cystoscope reveals a vesical mucosa free from all traces of inflammation.

26. **Lachrymal Disease.**—In cases of epiphora it is not infrequent that the condition becomes a constant menace, threatening to cause ulcer of the cornea or phlegmonous inflammation, and radical operation is apparently demanded. Lancaster discusses the indications in these cases and favors the removal of the sac as producing diminution of the cavity and size of the lachrymal gland though there is often still considerable surplus of secretion. If, however, the condition of the patient is critical the operation is only a partial success in many cases and here he favors removal of the gland itself. There are some cases where removal of the gland without removal of the sac seems to promise relief, as where, for instance, there is no obstruction to the lachrymal passage and yet the epiphora is great. Favorable results from this procedure are reported by De Wecker and others. The disadvantages or dangers of the ordinary treatment are direct and indirect. Among the first he would include the possibility of failure of preliminary healing of the wound, entailing prolonged treatment, with more or less disfiguring scars, and if infection occurs and extends to the orbit there is the possibility of orbital abscess. There is a conceivable possibility of orbital hemorrhage occurring after extirpation and the possibility of causing ptosis by damaging the levator has been suggested. So far he knows of none of these that have occurred, excepting the first. Some operators have failed to get primary union. The direct unfavorable results are the chance of having too great dryness of the cornea after extirpation of the gland. There is also the chance of injuring the cornea by lack of of care. If the eye, after the operation, should become infected, it seems a lack of irrigation would be of a decided disadvantage and necessitate frequent artificial irrigation to take the place of the natural. Against this, however, there is the fact that the removal of the sac which is the focus of infection renders such keratitis or conjunctivitis less likely to occur. He knows of but one instance of serious complication following operation for the removal of the sac and gland. This was reported by Veasey and it seems clear that the keratitis which occurred was an unusual type and not to be regarded as the result of the operation per se. He reports five cases in which he has operated, in all satisfactorily to the patient.

28. **Spinal Cocainization.**—Richardson gives his impressions derived from observation of Tuffier's operations under this method of anesthesia. The patients had the appearance of being in actual danger, with anxious facial expression, deep pallor and very feeble pulse. The condition would apparently indicate the hypodermic or intravenous infusion of normal salt solution, or at least of brisk stimulation or artificial heat. He admits that these signs may be due to psychic conditions, as he has seen similar symptoms in simple faintness from mental shock. The advantages of spinal over general anesthesia can not be demonstrated except by years of experience, and he is not at all convinced that the method is without serious dangers. It is inconceivable to him that the introduction of a needle into the spinal canal should be without danger, let alone the question of sepsis. One patient was reported as having suffered from paralysis of the bladder for several months after this method of anesthesia. A feature of general anesthesia too little appreciated is the blessed oblivion of the patient from the beginning to the end of the operation, and this is lacking here.

29. **Cervical Adenitis.**—Cobb introduces his paper with the account of a case of a child, without history of previous trouble, contracting diphtheria followed by purulent discharge from the nose, with, two years later, removal of enlarged tonsils with adenoids, and one year after this operation with a still remaining purulent discharge from the nose and cervical adenitis following an acute coryza. This case he selected because it is typical of a class met with by the general practitioner, and he points out the possible connection between purulent rhinitis in these cases and cervical adenitis, illustrating it by the case given.

31. **Tubercle Bacillus.**—Graber gives the following as a convenient, cheap and reliable stain which can be used to a decided advantage and with a great deal of satisfaction by the hampered country doctor: Fuchsin (dry), 0.50 gm.; carbolic acid, 2.50 gm.; alcohol, 5.00 c.c.; distilled water, 10.00 c.c. Mix. Mount the specimen, dry, and fix; then with an ordinary medicine-dropper completely cover cover-glass held by small pair of forceps over flame of an alcohol lamp, replacing from time to time what is lost by evaporation so as not to let the specimen get dry at the edge. Steam in this way for one minute. Wash at once in water. This can be nicely done by holding cover-glass under the tap or by moving gently back and forth in a vessel of water. Dry and apply the following: Methylene blue (dry), 2.00 gm.; sulphuric acid (U. S. P.), 24.50 c.c.; distilled water, 73.50 c.c. Mix. This is to be applied in same manner, except that no heat is used and the time should be from 30 to 60 seconds. The writer has found 50 to 59 seconds to be about right, as a rule. If stained too much or not enough, modify accordingly the time of second staining. Wash in water as before, dry, and mount. This process takes but a few minutes and is very satisfactory. The tubercle bacilli are stained a bright red, all other substances blue.

37.—See abstract in THE JOURNAL, xxxv, p. 1047.

38. **Traumatic Keloid of the Median Nerve.**—Kiliani's case is that of a woman 21 years of age who had had the median nerve cut by window glass, resected and sutured together. On admission there was found over the median nerve a spindle-shaped bulbar thickening about the size of an olive. This was excised, together with a smaller one, and the nerve united by catgut suture. Sensation returned the fourth day, motion gradually afterward, and in less than three months the patient was discharged with a useful hand. The patient was readmitted some four or five months later with a small tumor at the original site, which has since decreased. The nerve tumor is called keloid because the incision twice developed keloid in the skin, indicating that the patient's tissues had a tendency to fibrous hyperplasias. Aside from the clinical and pathological interest which the case presents, he reports the case because it shows the absorption of silk sutures in the wound. Although the silk had not disappeared, microscopical observations of the tumor showed that absorption of silk fibers had set in.

40. **Laryngectomy.**—The conclusions of Davis' article are: It is feasible to remove the larynx under eucain anesthesia. If the two operations are done simultaneously and a favorable course is pursued, the result will be brilliant, the patient being "out of bed on the fourth day." It is his belief that Delavan is right, and that preliminary tracheotomy ought to be done. We should not sacrifice safety for brilliancy. The the leaving of an esophageal tube projecting from the wound is probably unnecessary, the patient swallowing on the third day. The wound need not be tamponed, but can be closed from the upper edge of the trachea to the hyoid bone. These patients can make their wishes understood by speaking in a short time after the complete removal of the larynx. In this case it was found comparatively easy to remove the larynx from below upward, going up on one side, then across at the hyoid bone, and down the other.

41. **Double Ureter.**—A case is reported by Summers, who calls attention to the fact of possible error in using "segregators" to determine the presence and condition of both kidneys. He says it is conceivable also that mistakes might occur when reliance is placed wholly upon ureteral catheters. Prior to an extraperitoneal nephrectomy of election it is wiser to palpate through a button-hole opening for the presence of any gross pathologic condition of the opposite kidney.

45. **Giant Cells.**—Buxton's paper is a discussion of the origin and development of giant cells and their relation to disease, and he says finally: "Without quoting other authorities who reached similar conclusions, we may sum up that giant cells: 1. In myelosarcomas represent absorption of bone. 2. In other tumors, represent foreign-body intrusion. 3. In all tumors are a secondary manifestation, and do not actively contribute to their growth."

46.—See editorial in The Journal of January 12, p. 112.

47.—Ibid.

49.—This article has appeared elsewhere. See The Journal, xxxv, ¶89, p. 123.

52. **Femoral Hernia.**—Bacon's article is a very elaborate and lengthy one, discussing all the operations and methods of treatment of femoral hernia, its mechanism, anatomy, etc., and the technique of Gordon's operation, which he recapitulates as follows: The first step is the curved skin incision, with the upper leg of the curve parallel to and about three-quarters of an inch above Poupart's ligament, and the lower leg vertical over the femoral canal or the hernial tumor. The second step is the careful preparation of the aponeurosis of the external oblique muscle. The third step is the isolation of the hernial sac, and the reduction of its contents. The fourth step is the cleaning out of the fossa ovalis and femoral canal, extending the operation into both the abdominal and the pelvic cavities, so as to have a firm bed for the peritoneum to rest on. The fifth step is the resection of the sac and the suture of the peritoneum. The sixth step is the incision in the aponeurosis and the freeing of the adjacent muscles. The seventh step is the suturing of the internal oblique and transversalis muscles to the periosteum of the pubic bone, along the pecten ossis pubis, that is, to Cooper's ligament, with mattress-suture, and the felling down of the up-turned free border of these muscles by simple sutures, fastening them to the pectineal fascia. The eighth step is the closing of the incision in the aponeurosis. The ninth and final step is the closure of the skin incision.

62. **Pneumonia.**—The various methods of the treatment of pneumonia are considered by Brown, who believes that the consensus of best teaching is that the most favorable results will be obtained by careful nursing, diet and hygiene, and the systematic use of hydrotherapy during the entire course of disease. Cold sponging and cold bags seem to be most practicable, with very little use of drugs of any sort, except perhaps some heart stimulant such as alcohol or strychnia. A dose of morphin may be needed to relieve pain if the ice-bag does not furnish relief. To this must be added the use of saline infusions and various inhalations, with or without oxygen, to allay bronchial irritation, while great care should be exercised in prophylactic measures by disinfecting the sputum and sickroom.

63. **Formaldehyde in Ear Disease.**—According to Reik, the best antiseptic in otitis is formaldehyde, of which he found 1 dram to the pint of boiled water the best solution, syringing the ear twice daily and using at least a pint at each sitting. It makes a 1 to 3000 solution of formaldehyde gas. It seldom causes discomfort, and if it should a weaker solution should be employed. He has gone over the figures of the dispensary of the Johns Hopkins and Baltimore Eye and Ear Hospitals to test the value of this method and, while he has been able to trace up and secure notes of only 47 cases, the results seem to support his views. There are certain disadvantages in the use of boracic acid, such as retarding the healing of perforation of the drum, which he has no reason to believe occurs in the use of formaldehyde. He says in conclusion: "I do not wish to be understood as claiming that formaldehyde will cure all cases of otorrhea, but merely desire to state my belief, based upon the experience given, that in those cases which are susceptible of cure by syringing with an antiseptic fluid, formaldehyde will accomplish the good result with more certainty and in considerably less time than any other antiseptic employed at the present time.

64. **Cholelithiasis.**—Mitchell reports cases of gall-stone surgically treated in which material of the common duct was examined bacteriologically and pure cultures of what were apparently typhoid bacilli obtained. The specially interesting point in the case is that there was no history of typhoid fever and he is satisfied as well as one can be from the past history that the patient never had the disease. He regards the case, therefore, as one of local infection with typhoid bacilli without the presence of the symptom-complex which we call typhoid.

76. **Theodor Billroth.**—Hemmeter's article is a biographical sketch with notice of the works especially in regard to music and philosophy of the distinguished surgeon, Theodor Billroth. He believes that Billroth has cleared up portions of the subject of physical and physiologic acoustics and developed the scientific aspects of music. He has also emphasized the gaps that must be filled before we can reach more tangible results concerning the purely physiological aspects of music.

77. **Aural Defects.**—Reik's paper is based on the examination of the ears of 440 school children in which he tested the hearing and internal and external abnormalities. He thinks that while he could not draw definite conclusions from this examination, if it be anywhere near correct, the normal limit for high tones is far above 32,000, and even above 49,000 in young persons, many of whom can hear over 70,000, and some over 100,000 vibrations per second. The abnormalities of the external ear were also observed, and some of them described and figured, and he thinks there is much of interest in this particular subject. The results of his paper are given in tabulated form.

78. **Testicular Fluid.**—Walker reports experiments on the injection of testicular fluid to prevent atrophy of the prostate gland after extirpation of the testes and sums up the results as follows: The prostate gland in the injected animals presented both macroscopically and microscopically the same changes that had occurred in the uninjected ones. It may be said, therefore, that the injection of the testicular fluid has apparently no effect whatever, and one is probably justified in concluding that the atrophy of the gland is in no way connected with the absence of any substance in the testicular secretion.

79. **Laryngeal Cancer.**—Mackenzie pleads for thorough work in laryngeal cancer, especially the importance of naked-eye diagnosis, as compared with only microscopic examination of excised portions. He says in case of reasonable doubt, after weighing all the facts as regards the diagnosis: Should the next step be the removal of a portion of the diseased structure for examination? And in the face of all authority to the contrary, he says emphatically, "No." Before even considering such a proposition, if it is considered at all, the suspected growth should be examined from every point of view and this is best accomplished by the second method, thyrotomy, or even still more extensive external operation. Wherever laryngeal examination leaves reasonable doubt thyrotomy is justifiable, and even after this has been done, if there should be any uncertainty remaining, the removal of a portion should be only a measure of the very last resort. The objections he makes to this procedure are: 1. It subjects the patient to auto-infection and metastasis. 2. Stimulates the local growth. 3. The method is often inconclusive and misleading and sometimes practically impossible. The general treatment is sufficiently simple. It should be that which governs us elsewhere in the treatment of cancer. Total extirpation with neighboring portions of healthy tissue or of any possible lymphatic infection should be the general rule of practice. No operation for lymphatic cancer is complete without removal of the neck lymphatics. Other measures, such as curettement or removal of all visible disease, are not up-to-date surgery.

85. **Cephalic Version.**—After reviewing the opinions of authorities, Horn reports a number of cases in which this method was employed by himself, and discusses the results. In one case podalic version was finally resorted to. The results as far as the children are concerned, considering the conditions, are fairly good, but he does not think the method will be likely to claim general preference. It is much to be desired, however, that it be more employed not only in the interest of the children, but of the mother. In full term children the podalic version gives generally preferable results, though if one had the time and inclination he could get good results with cephalic version, though it will not impress the laity as much. In the induction of labor he does not hesitate to give it, by the combined method, when external method has been given a thorough trial and failed, the preference by far over any other method, and this should be in the interest of the child.

88.—See abstract in THE JOURNAL, xxxv, p. 1050.

89.—See abstract in THE JOURNAL, xxxv, p. 1425.

92. **Gastric Disorders.**—After describing the anatomy of the stomach and its blood-supply, Mayo notices the methods of examination. He believes that too much attention is paid to laboratory and too little to clinical examination at the present time; the two should go hand in hand and neither be neglected. For instance, the salol test for loss of motor power is unreliable, but the finding of food in the fasting stomach regularly seven hours after taking is most practical and reliable; fourteen hours after indicates stagnation or retention. For getting the outlines of the stomach neither the gastrodiaphanoscope nor gastroscope are of real use, nor can the giving of bismuth or the using of metal sounds for X-ray examination be compared in efficiency with simple dilatation with bicarbonate of soda and tartaric acid, or better still, a stomach-tube and a Davidson syringe with which it is easy to distend the stomach with air. If on distension the lesser curvature and pylorus remain in the normal position while the greater curvature lies below the umbilicus, dilatation is evident. If they are detected below the costal margin the stomach has descended. The history of the patient, his present condition and the chemical and biological examination of the gastric contents, taken into account with the position and size of the stomach, give a basis for diagnosis and as a rule indicate whether an abdominal incision would be expedient. In the beginning nearly all operations on the stomach are exploratory; for the most important primary investigation seldom relieves the exact condition. The technique of the operation is described and ulcer and its operative needs are noticed at length. Some forms of gastrectasia of uncertain origin are also dwelt upon, such as what has been called spasm of the pylorus, of which he thinks he has met with four cases; the special forms of pyloric obstruction are described by him, in which a high lying and fixed pylorus became more and more compressed as the stomach filled, and the distension finally relieved itself by copious vomiting. He thinks this is often the cause of dilatation, and has operated on four such cases. The so-called "fish-hook" pylorus in which the opening is directed upward, increases the muscular efforts and acts in a similar manner by increasing the stomach's work. As regards operation, he says gastroenterostomy is the most generally advisable and has few contraindications. Pyloroplasty may be of benefit in certain cases. As a result of his own experience he believes that much depends on the condition of the pylorus. If the abatement is high relapse may occur, the weakened muscles being unable to elevate the food. Gastroplication may be advantageous in selected cases for pyloric opening, but personally he has never met with a case where this operation seemed called for.

93. **Bacteriology of the Alimentary Canal.**—The chief points in Martin's paper are that it is erroneous to endeavor to sterilize the food which enters the alimentary canal. It is true that the alimentary canal of a newborn infant is sterile, as is also milk from the breast of the healthy mother, yet in a very short time under good conditions the bowels of children apparently in robust health are inhabited by the colon bacillus and various other forms of micro-organisms. Thousands of infants, he claims, have been starved to death under the belief that the babies are being protected by sterilized food, which, while destroying possible pathologic germs also destroys at the same time thousands of beneficial bacteria. To pretend to abrogate the functions of the stomach in clearing the food of harmful bacteria by its acid secretion and attempting to presterilize the food and filtering the water seems to him absurd.

95. **Cataphoresis.**—Williams reports a case of caries within the internal ear treated by him by filling the meatus, packing the tympanum and filling the canal with dilute hydrochloric acid and placing the pole well wrapped with cotton into the auditory canal the other pole being applied to the mastoid on the opposite side. A street current of 110 volts was used, regulated by a selector apparatus obtained from a dental supply-house. No milliamperemeter was used, but the force was graduated by the sensations of the patient, and he claims that the patient was soon able to bear for a period of thirty minutes a voltage of 36 to 40 directly through the cranium in this way. The hydrochloric acid produced slight dermatitis, which he thinks was not harmful. The patient recovered. He also claims to have treated similarly another case of antrum disease. The treatment appears rather severe and risky, and perhaps had not better be adopted too freely.

107. **Vernal Catarrh.**—This disorder, which Allport says is not properly named, is a sort of chronic hypertrophic conjunctivitis, and more than a mere catarrhal inflammation of the eyes, consisting as it does of marked epithelial hypertrophy sometimes of enormous dimensions. He would, therefore, wish to supplant the name "spring" or "vernal" given by Saemisch, by this other designation which more nearly represents the pathology. The symptoms are described and the occurrence of the disease is said to be in warm moist climates particularly. He never saw a case in Minnesota and only three cases in Illinois. It appears to be more especially frequent in Turkey, Italy, Spain, etc., and it usually occurs during the warm months. The treatment is not satisfactory, but a wash has been recommended by Van Milligan consisting of two drops of dilute acetic acid to one ounce of distilled water, which adds materially to the comfort of the patient. The author also recommends boracic acid 10 grs., sulphate of zinc 2 grs. to one ounce of water dropped in the eye, or another prescription recommended by Dr. Casey Wood, consisting of sodæ biborat., 300 grs., boracic acid, 200 grs., hydrarg. chlorid cor., 1/12 gr., and distilled water, 10 ounces. Use in the eye cup several times a day. Allport also recommends salicylic acid, 6 to 10 grs. to an ounce of lanolin or mild ichthyol ointment. He concludes his paper with the suggestion of the trial of chromic acid.

111.—See abstract in THE JOURNAL of January 12, p. 127.

119. **Rectal Diseases.**—The subject of rectal disorders is taken up by Tuttle, who endeavors to show what is necessary in examining for them and how to diagnose and treat ordinary cases. As a first suggestion he calls the attention of the practitioner to symptoms that indicate rectal examination. They are vague aching pain about the pelvis and sacral region, shooting down the leg; a sense of constriction or weight about the pelvis—especially in males—irregularity of the bowels, constipation, diarrhea, flatulence, loss of appetite, all the symptoms which constitute so-called intestinal indigestion, spasm of the bladder, dysuria without adequate cause, irregular menstruation in girls, membranous or mucous diarrhea with blood, restlessness at night, picking of the nose and a ferocious appetite in very young children. The history of the patient is important in regard to family antecedents, environments, habits and tendencies. All questions as to diarrhea, constipation, condition of stool when it does occur, straining, pain in and about the rectum, and its location and character, also vague unfavorable sensations should be inquired into, as also any discharge and its character; and protrusion around the rectum or swelling and whether it is easy or difficult of replacement. Having made all inquiries the physician is prepared to clearly judge of what he is likely to find, but no diagnosis is complete until both digital and ocular examinations are made. Tuttle objects to cleaning out of the rectum before examination to ascertain the habitual condition of the patient's bowels, however disagreeable

this may be. After having learned this, however, rectal irrigation should be given the patient and he then immediately afterward should be observed to see whether there is any protrusion or not.

120. **Appendicitis.**—While favoring radical procedure at the earliest possible moment Eades is not positive that all pain, vomiting and muscular rigidity call for operation. He believes in an appendicular colic, a functional condition without any pathology and some of these cases can not be differentiated from true appendicitis. In his practice, however, he places these cases on medical treatment for twelve hours and if the symptoms have abated in that time he does not consider operation absolutely necessary. If nausea and pain disappear, tenderness not increased, temperature normal or very slightly elevated, pulse normal, not too frequent, and the expression is good, he thinks recovery is probable. If improvement is not marked during the second twelve hours the surgeon should be called in.

128.—This article has appeared elsewhere. See THE JOURNAL, xxxv, p. 904.

136. **Antitoxin.**—Shurly tabulates the results of a later series of experiments which showed a mortality of 16.1 per cent. as compared with his 31 per cent. in his former series. He says in the conclusion of his article that we can say that the treatment of laryngeal diphtheria has reached a definite and exact procedure as sure and specific in its effects as any method in the treatment of disease can become. Antitoxin within twenty-four hours of onset, prophylactic dosage to exposed children, the use of intubation, if necessary, the enforcement of more perfect sanitary and hygienic surroundings will reduce the mortality to a very low percentage, and he also confidently believes that with serum administered twelve hours before operation the mortality of the few intubation cases that become necessary will be 5 per cent. or less.

137. **Suprarenal Extract.**—Somers enumerates the conditions in which the suprarenal extract is of value in ear diseases. The formula which he has employed is suprarenal 20 gr., phenic acid 2 gr., eucain hydrochlorate B. 5 gr., distilled water 2 drams. Macerate for ten minutes and filter. This solution he finds permanent and valuable. The conditions in which he has found the drug useful are acute inflammation of the drum or acute otitis media, together with the regular therapeutic procedures, when granulation tissue has developed in the canal and middle ear and in acute catarrhal otitis with congestion, but without perforation. In chronic suppuration of the attic, with a small perforation in Shrapnell's membrane and a scant purulent secretion the drug has not been of service and should not be used, but if perforation of the lower portion of the membrane is most often seen, the addition of suprarenal solution to the treatment will be favorable, provided the ear be thoroughly cleansed. In chronic cases where sclerosis of the lining membrane is marked, with rigid ossicles the results have not been satisfactory.

138. **Trichloracetic Acid.**—Huston sums up the advantage of trichloracetic acid as follows: It is one of the most powerful stimulants to granulating surfaces; it lessens secretions from granulating surfaces; it readily cleans off sloughs. When it is applied to wounds it does not burn at once, making it much easier to use as a stimulant. There is little or no inflammatory reaction.

141.—See abstract in THE JOURNAL, xxxv., p. 1425.

142.—Ibid.

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The clinical indications which should be sought for are: 1, feebleness of the pulse wave; 2, feebleness and diffusion of cardiac impulse; 3, extension of the cardiac dulness to the left; 4, feebleness of the first sound at the apex, with accentuation of the pulmonary second sound, all of which four indications of the weakened left ventricle would naturally be looked for in a heart suffering from fatty degeneration and they are all present more or less in many cases of diphtheria; 5, a sign which could not have been anticipated, but which is usually present, is marked accentuation of the aortic second sound, often very decided without tenseness of the radical pulse. One can only urge that the tension of the aorta is increased by contraction of the splenic arterioles through some central vasomotor irritation caused by the toxins. If the vascular tension is much increased at the same time that the ventricle is weakened the danger of fatal syncope is great. The physical examination of the heart is noticed by the author. He insists on the importance of percussion. The finger of the left hand is the best pleximeter and should be so applied that only the terminal phalanx is pressed upon the spot, and no pressure exerted elsewhere. In diphtheria if the dulness does not extend one finger-breadth outside of the left nipple there is usually no immediate danger, but should it extend farther than this, the case should be carefully watched. If it extends two finger-breadths there is an urgent peril and the child must not be allowed to sit up under any circumstances. This increase of dulness is sometimes very rapid, the extension from one finger-breadth to two may occur within a few hours, and is often accompanied by vomiting, which is an important danger signal, and sign of acute cardiac dilatation. When shock or acute dilatation has passed off, or if it occurs gradually, the patient may feel well, yet be in urgent danger. This apparent danger with dilated and fragile heart misleads the practitioner who does not use physical signs. Cardiac dilatation may occur at an early stage of the disease or later. In influenza there is also rapid cardiac dilatation in many cases, sometimes causing fatal symptoms. The same physical signs are to be noted with the same importance as in diphtheria. The dilatation in this disease may be permanent and give rise to very serious symptoms. Thrombosis is also of frequent occurrence, probably due to enfeeblement of the heart. Minor degrees of cardiac dilatation after influenza may cause merely a feeling of incapacity for exertion. The physical signs should be carefully noted in these cases, as undue exertion, prolonged strain, etc., may be very injurious. The same rule as to the danger-point when the dilatation exists over one finger-breadth from the nipple is to be borne in mind. In rheumatic fever, even in the most sudden type, acute dilatation seems to be present. Lees has never seen a first attack where it was absent. It is, however, less dangerous than in diphtheria or influenza. The same amount of dilatation as indicated by the extent of dulness beyond the nipple indicates less danger in rheumatism, but the rapid further extension may be serious and be attended wit vomiting as in diphtheria. The slightest suspicion of rheumatism in a child should lead to repeated and frequent examination of the heart, and even in adults more often than is generally recognized, it is the fresh rheumatism that kills by breaking down the compensation. Rheumatic and diphtheric myocarditis and fatty degeneration are found and it is probable similar conditions exist also in influenza. There is no question that in diphtheria and influenza the heart injury is due to toxins produced by well-known microbes of disease, and this, Lees deduces, is an argument in favor of the microbic theory of acute rheumatism. The conclusion of his article is an appeal for greater care and accuracy in the examination of the heart by palpation and percussion. Besides the dilatation of the left ventricle above noted as an important danger, dilatation of the right auricle, quite easily detected by percussion of the fourth right interspace and weakness of the right ventricle, detected by palpation of the epigastric region, are usually accompanied by considerable dyspnea and often by some lividity. A marked degree of dilatation of the right auricle two to three finger-breadths to the right of the sternal margin in the fourth space may indicate grave danger of death from asphyxia and be an urgent call for venesection or leeches. He says: "After a considerable experience as an examiner in medicine, I am forced to the conclusion that these facts are still very inadequately recognized, for I rarely meet with a candidate who understands the object of percussion of the heart or the proper method of procedure. He usually thinks only of the useless superficial cardiac dulness and contents himself with trying to determine a horizontal upper limit (which does not exist), and then palpating the cardiac impulse, as if that were equivalent to the left border of the dulness. The right limit of the heart he usually neglects altogether. And even some physicians of great eminence are apparently not conversant with the fact that the dulness of the right auricle normally extends one finger-breadth into the fourth right space, and that its border can be quite easily detected by careful light percussion."

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Notes on the Dialysis of the Toxins Through Collodion Walls. M. ARMAND RUFFER AND M. CRENDIROPOULO.—The authors have investigated the question whether mild toxins pass partly or wholly through the walls of collodion sacs and retain their pathogenic properties. The microbe chosen was the bacillus pyocyaneus, because its pathogenic properties have been well studied and it secretes a coloring matter rendering its recognition easy. They found that these passed through the collodion walls in small quantities, but not altogether; and the toxins filtered through the Chamberland filter, compared with toxins obtained by dialysis, showed greater pathogenic properties than the latter. The pathogenic properties of dialysed substances varied according to the length of dialysis. The nature of the liquid surrounding the sac of collodion had great influence upon the amount of toxin which dialysed through. When a collodion sac filled with bouillon was suspended in distilled water the surrounding water became far more toxic than when the surrounding media was bouillon or peptonized water. The naked-eye characters of the water also differ according to the liquids, and the bacilli themselves change. The bacilli in the collodion sacs appear, so far as they have studied them, to follow no regular rules. They say, in summing up, that the various toxins of the bacillus pyocyaneus dialyse, but not in their entirety. The time they take in thus dialysing is comparatively long, and their pathogenic properties vary according to the length of the dialysis. It is extremely probable that the immunizing substances are almost the first to dialyse. Advantage might possibly be taken of this property in the manufacturing of vaccins.

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An Address on Clinical Varieties of Bright's Disease. JOHN ROSE BRADFORD.—The author summarizes his views as follows: 1. That we may recognize two forms of acute Bright's disease, one characterized not only by the well-known urinary changes, but also by the presence of dropsy, the other where dropsy is absent and where the distinction between the acute Bright's disease and mere congestion of the kidney is by no means easy. 2. That there are at least two forms of chronic Bright's disease—one where the patient secretes a scanty, highly albuminous urine and becomes markedly dropsical, the course of the malady being chronic and death occurring usually either from the mere water-logging of the tissue, or from the development of inflammatory complications, or from chronic or subacute uremia. The second form is one in which the symptoms often run a latent course for an unknown period and where the patient ultimately seeks advice on account of very vague symptoms of ill-health, such as wasting, loss of strength, circulatory disturbance, or even where he does not seek advice until the onset of acute and fatal uremia. In this form of the disease dropsy is absent, the urine is abundant and pale, and it contains a considerable quantity of albumin. would seem that not only may chronic Bright's disease be chronic from the onset, but also that the two varieties are not necessarily different stages in one and the same morbid process, but represent rather the different effects of perhaps the same morbid process.

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Deformity of the Skull Simulating Leontiasis Ossea, With Condition of Syringomyelia; No Physical Signs of Syringomyelia Present. JAMES S. COLLIER.—Collier reports a case in which syringomyelia was found in the necropsy with absence of all the usual signs of that condition, but with a close simulation both in signs and symptoms of leontiasis ossea by a thin, deformed skull and meningeal ossification, though the examination of sensibility was not, however, sufficiently thorough to absolutely exclude the presence of sensory changes, and while gliosis of the cord is sometimes met with, it is usually in young children and not in adults. Absence of usual symptoms where there was such distension of the spinal cord this may be. After having learned this, however, rectal irrigation should be given the patient and he then *immediately* afterward should be observed to see whether there is any protrusion or not.

120. **Appendicitis.**—While favoring radical procedure at the earliest possible moment Eades is not positive that all pain, vomiting and muscular rigidity call for operation. He believes in an appendicular colic, a functional condition without any pathology and some of these cases can not be differentiated from true appendicitis. In his practice, however, he places these cases on medical treatment for twelve hours and if the symptoms have abated in that time he does not consider operation absolutely necessary. If nausea and pain disappear, tenderness not increased, temperature normal or very slightly elevated, pulse normal, not too frequent, and the expression is good, he thinks recovery is probable. If improvement is not marked during the second twelve hours the surgeon should be called in.

128.—This article has appeared elsewhere. See THE JOURNAL, xxxv, p. 904.

136. **Antitoxin.**—Shurly tabulates the results of a later series of experiments which showed a mortality of 16.1 per cent. as compared with his 31 per cent. in his former series. He says in the conclusion of his article that we can say that the treatment of laryngeal diphtheria has reached a definite and exact procedure as sure and specific in its effects as any method in the treatment of disease can become. Antitoxin within twenty-four hours of onset, prophylactic dosage to exposed children, the use of intubation, if necessary, the enforcement of more perfect sanitary and hygienic surroundings will reduce the mortality to a very low percentage, and he also confidently believes that with serum administered twelve hours before operation the mortality of the few intubation cases that become necessary will be 5 per cent. or less.

137. **Suprarenal Extract.**—Somers enumerates the conditions in which the suprarenal extract is of value in ear diseases. The formula which he has employed is suprarenal 20 gr., phenic acid 2 gr., eucain hydrochlorate B. 5 gr., distilled water 2 drams. Macerate for ten minutes and filter. This solution he finds permanent and valuable. The conditions in which he has found the drug useful are acute inflammation of the drum or acute otitis media, together with the regular therapeutic procedures, when granulation tissue has developed in the canal and middle ear and in acute catarrhal otitis with congestion, but without perforation. In chronic suppuration of the attic, with a small perforation in Shrapnell's membrane and a scant purulent secretion the drug has not been of service and should not be used, but if perforation of the lower portion of the membrane is most often seen, the addition of suprarenal solution to the treatment will be favorable, provided the ear be thoroughly cleansed. In chronic cases where sclerosis of the lining membrane is marked, with rigid ossicles the results have not been satisfactory.

138. **Trichloracetic Acid.**—Huston sums up the advantage of trichloracetic acid as follows: It is one of the most powerful stimulants to granulating surfaces; it lessens secretions from granulating surfaces; it readily cleans off sloughs. When it is applied to wounds it does not burn at once, making it much easier to use as a stimulant. There is little or no inflammatory reaction.

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Annales de Dermatologie (Paris), November.

Hereditary Syphilis of the Spinal Cord. P. CAZIOT.—Two cases are described of chronic meningo-myelitis of Erb's type, occurring in heredosyphilitics. Caziot urges physicians to look for indications of hereditary syphilis in examining patients with affections of the cerebrospinal axis.

Annales de la Soc. Med.-Chir. de Liege, October.

The Resources of Surgery in Uro-Genital Tuberculosis. A. HOOGE.—The indication for surgical intervention in case of abscess, fistula or fungus is formal and accepted by all. But there are differences of opinion in regard to the initial stages, especially of epididymo-testicular tuberculosis. Roux, Quénu and others advocate operating in the old chronic cases with one or more nodules, and still more urgently, in the fibrous or fibro-caseous chronic varieties, but the majority of surgeons abstain in these conditions. The results of 19 operations for tuberculosis of the prostate and of 30 for tuberculosis of the seminal vesicles are tabulated. They seem to indicate that success is more certain the more thorough the operation. The immediate results were always good. In the 19 operations on the prostate the organ was removed in 6, and patients regained their former strength in three or four instances. One of the others died in less than two years, from renal tuberculosis, and the other in four months. In this case the prostate was found completely necrosed. In all the other cases the cure was complete or partial, with no deaths reported to date. In the 30 cases of tuberculosis of the seminal vesicles operated on, the immediate results were good in all but one case, reported by P. R. Weir, in which the irritable bladder persisted. Three deaths have occurred, including two from pulmonary tuberculosis and one four years after the operation. The patients who have been seen since are in good health. Hooge concludes the list with a recent case of his own, in which marked improvement followed the operation, although the patient was in advanced pulmonary tuberculosis. The pain and retention were completely cured and the general health improved. A perineal fistula persisted in nearly all the operations reported. The favorable results of total extirpation of the prostate should encourage further intervention in this line. The lungs were affected in one-third of the cases investigated and published to date.

Bull. de la Soc. Med. des Hop. de Paris, December 6, 13 and 20.

Intoxication from Hydatid Cyst. H. DUFOUR.—An operation was refused by the patient even after the diagnosis of a hepato-pulmonary hydatid cyst had been made and 1500 gm. of fluid had been aspirated. Dyspnea preceded and continued after the puncture; urticaria appeared three days before and again two days afterward. There was also fever, but no indication of suppuration nor leucocytosis. The post-mortem examination disclosed congestion and a few nodular bunches with giant cells in the vicinity in one lung, but no evidence of the presence of the Koch bacillus. Dufour attributes all these symptoms and lesions to intoxication from the cyst and suggests the possibility of anti-hydatid serum therapy. It might sustain the patient and enable him to benefit by repeated punctures or laparotomy without succumbing to the general intoxication or toxic peritonitis so frequently noted in these cases. Linossier, in the succeeding number, reported that the fluid from a quadruple hydatid cyst of the liver, injected into rabbits and guinea-pigs showed no toxic power even at the dose of 200 c.c. per kilogram. The urine, however, killed rabbits in a dose of 35.8 c.c. per kilogram.

December 13.

Pleuritic Effusion in Myelogenic Leukemia. A. SICARD.—Widal classifies pleurisy as tuberculous, mechanical and acute. Sicard describes a case of typical myelogenic leukemia in which a left pleuritis effusion was characterized by desquamated endothelial cells, usually clumped. The hypertrophy of the mediastinal ganglia and of the spleen confirmed the assumption that it was a purely mechanical effusion in this case.

December 20.

Lymphadenoma With Polynucleosis. VAQUEZ.—The post-mortem findings suggested an infectious polynucleosis, possibly secondary to the lymphadenic affection. The polyneucleosis should take its place between aleukemic and leukemic lymphadenoma, and is possibly a transitional process liable to terminate in true myelogenic leukemia. The patient was a woman of 30 with multiple adenomata which had been developing for thirteen months. The blood showed 3,456,000 reds to 570,000 whites when first seen, and 87 polynuclear to 13 mononuclear cells. Later there were 2,520,000 reds to 300,000 whites. Arsenic and all treatment proved ineffectual, including Metchnikoff's new leucolytic serum. A cough resembling that of pertussis was accompanied by sputa which contained almost exclusively neutrophile polynuclear leucocytes, as also the urine and pleuritic fluid.

Nord Medical (Lille), December 15.

Sign of Incipient Arteriosclerosis. H. CURY.—The sign referred to was described in THE JOURNAL of July 21, 1900, p. 196. It was first pointed out by Friedmann, and consists in the lowering of the maximum of the sound of the aorta auscultated from the rear. Cury confirmed the value of the sign and considers it pathognomonic of arteriosclerosis long before it can be detected by any other measure. He found it constant in 89 advanced cases, and in a large number of apparently normal persons between 38 and 45 he observed the sign in six. Two of the six have been examined since and pronounced arteriosclerosis has been found. He found no traces of the sign in a number of persons with other pathologic conditions. The cause is probably the modification in the shape of the arch of the aorta in the incipient stages of the affection.

Beer Yeast in Diabetes. P. CATTAERT.—The writer prepared a dried preparation of yeast which was administered to four diabetics. One was a woman of 65, an old diabetic, with poor digestion, suppuration on both legs and commencing gangrene of one toe. She voided about 2250 c.c. of urine, containing on an average 101 gm. of sugar, in the twenty-four hours. After the yeast was administered the sugar dropped to 22 gm. in a week and disappeared two weeks later, with 1400 c.c. urine a day. The gangrene was arrested and the lesions on the legs healed over completely. The yeast was suspended for six weeks, when the lesions reappeared, but vanished again in two weeks after resumption of the yeast treatment. In another case a woman of 57 voided about 2 liters of urine a day, containing 80 gm. of sugar, but no albumin. The sugar disappeared after two weeks of yeast treatment, and did not reappear during the four following months. Another case was in an advanced stage, with deep gangrene of the toes; the sugar diminished from 54 to 17 gm. a day, but the gangrene progressed and the patient died. The fourth case is described in detail. The sugar diminished from 100 gm. to 4 gm. in four months of the yeast treatment and albumin increased from 5 to 14 gm. at the same time. The increase in the albumin may have been a mere coincidence, or possibly may have been due to the larger amount of nitrogen in yeast.

Revue Hebd. de Laryngologie, Etc. (Bordeaux), December 8.

Persistent Nasal Hemorrhage. COMPAIRED.—The writer has seen several cases of persistent nasal hemorrhage, always from the same nostril, without appreciable cause, and resisting all the usual measures. In a typical case, when the patient was first seen the hemorrhage had been arrested by tampons, but the writer insisted on their removal, to the horror of the anemic patient. He then examined the nose carefully, after introducing a little cocain, and found, as he expected, that the hemorrhage was due solely to a rupture in the internal branch of the spheno-palatine, which presented a varicose aspect for a short distance. The ruptured portion and the varicose region were cauterized with the iron heated dark red and held on the spot till cooled, so as not to detach the eschar. A small tampon, moistened with 5 per cent. zinc chlorid solution, was then applied and removed later by intranasal antiseptic irrigations. If success is not complete the treatment must be repeated until the desired result is attained.

Semaine Medicale (Paris), January 2.

Preventive Medical Treatment of Biliary Lithiasis. A. Chauffard.—It is Chauffard's opinion that systematic prophylactic measures will prevent recurring attacks of lithiasis and transform the disease into a latent stage equivalent to a cure. Surgical treatment is necessary only because the patients have been seen too late by physicians or have been inadequately treated. The aim should be to diminish the reflex excitability of the gall-bladder, modify its anatomical conditions and arrest or prevent the evolution of the calculous cholecystitis on the one hand, and on the other, to increase the flow of bile, rendering it more fluid and more abundant, keeping it aseptic, and to check the development of the calculi or dissolve them. These indications are met by a combination of sodium salicylate and benzoate and a compound of balsamic and resinous substances with general hygienic measures. The salicylate is given in doses of 1 to 2 gm. a day, combined with an equal amount of the benzoate, taken in two to four cachets before eating, occasionally supplemented by 1 to 2 gm. of Carlsbad salts. This treatment should be continued for ten to twenty days every month for several months or more than a year. Only by this perseverance can the desired results be attained. Every eight or ten days he orders one or two capsules of the compound which he has found extremely useful. The benzoate enhances the effect of the salicylate, while free from some of the inconveniences of the latter. The case is described in detail of a man of 45, so exhausted by seventy-four attacks of biliary colic within three years that he demanded operation. He had lost forty pounds in weight. Chauffard instituted his medical treatment as outlined above, twenty days a month at first and then ten days. The patient has not had an attack during the two years since the treatment was commenced and was able to take a long railroad journey within twenty days. The patient in another case was 80 years old and has been restored to normal health by this treatment with no attacks during the two years since.

Centralblatt f. Chirurgie (Leipsic), December 29.

Stenosis of the Larynx and Trachea Cured by a Thiersch Flap. H. Alapy.—This is the first case on record of complete cure of an impermeable stenosis of the larynx by excision of the cicatrix and implantation of a Thiersch flap. It was taken from the inner side of the thigh and applied through a slit in the larynx and trachea, after extirpation of the constricting cicatrix, which left a circular defect exposing the cricoid cartilage and the first ring of the trachea. The flap reversed outside, was placed on a roll of gauze, which was fastened in place, temporarily closing the larynx and the trachea at the spot. In eight days the larynx was turned back and the gauze removed. The skin flap was found in place completely healed. The wound was finally closed, after inserting a tube. The tenth day after the operation the patient, a 4-year-old boy, was able to breathe for an hour without the canula, which was then replaced and removed again daily, until its use could be gradually abandoned. Nine months later the cure was complete, the fistula had healed, the voice was powerful and distinct, although rather harsh. The recovery was smooth, but breathing was hampered a little at first by an inflammatory swelling of the false vocal chords. The stenosis followed diphtheria, and in spite of intermittent intubation, tracheotomy and several months of repeated dilatations, the child could breathe naturally only for a few moments after each treatment. Herczel has recently reported a flap operation of the kind, but his patient still has times of suffocation. Lénart has also applied a flap to prevent stricture after extirpation of a papilloma. The procedure is applicable only when the cartilaginous framework is still intact or but little compromised.

Muenchener Med. Wochenschrift, December 4.

The Internal Friction-Resistance of the Living Blood in Man. C. Hirsch and C. Beck.—By the apparatus shown in the cut, the writers of this communication have succeeded in determining the rapidity of the blood-current in more than a hundred different persons. This is the first application to man of the tests that have been made on animals or with defibrinated human blood, which are necessarily imperfect as the blood is not a simple solution but a fluid tissue. In the tests reported it was found that the rapidity of the circulation in the capillaries did not vary .2 of a second in the same subject in repeated investigations, but it varied in different individuals in diverse pathologic conditions, from 26 to 82 seconds. The apparatus may be applied at the bedside. It is constructed on the principle of Ostwald's, the tube B filled with calcium chlorid, the open manometer D with colored benzol. The thermostat is kept at a temperature of 38 C. and the manometer corresponds to a pressure of 400 mm. water, equivalent to 452 benzol, specific gravity .88. *The tube is unjoined* at P. and the manometer closed with the stopcock. The tube shown in left corner, natural size, is inserted in a vein in the forearm and .5 c.c. *of blood* are drawn, the amount necessary to fill the enlarged section of the tube G. The tube V is then replaced *and the* measuring apparatus put back in the thermostat. The time required for the blood to recede from X to X_1 is noted, and then the blood is aspirated again and *again, thus* allowing two to six measurements of the same sample of blood. The results obtained coincide with those recently reported by Huerthle in tests on living animals (*Pflueger's Arch.* lxxxii, *9 and 10*), and also confirm Poiseuille's laws. The writers are *now studying* with the apparatus the relations between the internal friction and the specific gravity of the blood, the difference between arterial and venous, unaltered and defibrinated blood, the alterations of the viscosity in nephritic blood and the influence of albuminoid bodies on the viscosity of the blood.

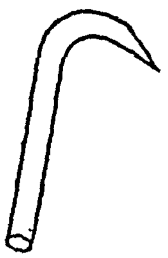

Figure 2.

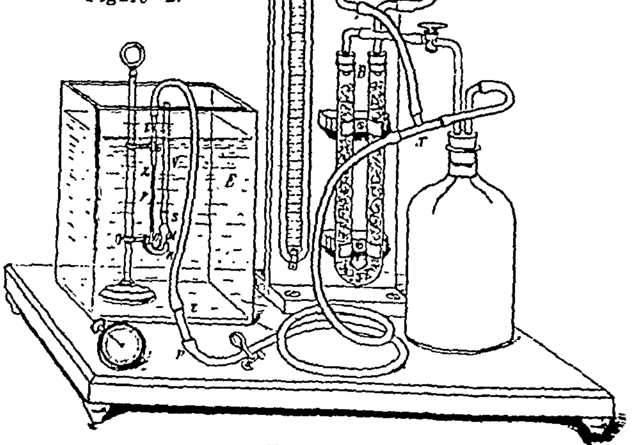

Figure 1.

Deutsche Med. Wochenschrift (Leipsic), December 20 and 27.

Value of Vegetable Albumin in Food. A. Loewy.—Tests conducted by the writer at the Berlin Agricultural Instias occurred in this case is very rare. Skull deformities appear to be rare in syringomyelia, and where recorded they usually approach the acromegaly type, with also some other signs of acromegaly, and enlargement of pituitary body has also been found occasionally. In the present case the skull presented features very different and the deformity had been recognizable from the age of 5 years, when there was a severe injury. The calcified plates in the dura mater might also have resulted from hemorrhage occurring at this time. The author inquires whether syringomyelia could have been caused by the same injury—a fall of 20 feet on the head. It is difficult to say, however, how an excessive hemorrhage into the spinal cord could have occurred without producing some permanent alteration of the functions. In this case the patient had led an active life as a mechanic for fifteen years. There was a localized epilepsy, but no local pathologic condition to account for it.

Annales de Dermatologie (Paris), November.

Hereditary Syphilis of the Spinal Cord. P. Caziot.—Two cases are described of chronic meningo-myelitis of Erb's type, occurring in heredosyphilitics. Caziot urges physicians to look for indications of hereditary syphilis in examining patients with affections of the cerebrospinal axis.

Annales de la Soc. Med.-Chir. de Liege, October.

The Resources of Surgery in Uro-Genital Tuberculosis. A. Hooge.—The indication for surgical intervention in case of abscess, fistula or fungus is formal and accepted by all. But there are differences of opinion in regard to the initial stages, especially of epididymo-testicular tuberculosis. Roux, Quénu and others advocate operating in the old chronic cases with one or more nodules, and still more urgently, in the fibrous or fibro-caseous chronic varieties, but the majority of surgeons abstain in these conditions. The results of 19 operations for tuberculosis of the prostate and of 30 for tuberculosis of the seminal vesicles are tabulated. They seem to indicate that success is more certain the more thorough the operation. The immediate results were always good. In the 19 operations on the prostate the organ was removed in 6, and patients regained their former strength in three or four instances. One of the others died in less than two years, from renal tuberculosis, and the other in four months. In this case the prostate was found completely necrosed. In all the other cases the cure was complete or partial, with no deaths reported to date. In the 30 cases of tuberculosis of the seminal vesicles operated on, the immediate results were good in all but one case, reported by P. R. Weir, in which the irritable bladder persisted. Three deaths have occurred, including two from pulmonary tuberculosis and one four years after the operation. The patients who have been seen since are in good health. Hooge concludes the list with a recent case of his own, in which marked improvement followed the operation, although the patient was in advanced pulmonary tuberculosis. The pain and retention were completely cured and the general health improved. A perineal fistula persisted in nearly all the operations reported. The favorable results of total extirpation of the prostate should encourage further intervention in this line. The lungs were affected in one-third of the cases investigated and published to date.

Bull. de la Soc. Med. des Hop. de Paris, December 6, 13 and 20.

Intoxication from Hydatid Cyst. H. Dufour.—An operation was refused by the patient even after the diagnosis of a hepato-pulmonary hydatid cyst had been made and 1500 gm. of fluid had been aspirated. Dyspnea preceded and continued after the puncture; urticaria appeared three days before and again two days afterward. There was also fever, but no indication of suppuration nor leucocytosis. The postmortem examination disclosed congestion and a few nodular bunches with giant cells in the vicinity in one lung, but no evidence of the presence of the Koch bacillus. Dufour attributes all these symptoms and lesions to intoxication from the cyst and suggests the possibility of anti-hydatid serum therapy. It might sustain the patient and enable him to benefit by repeated punctures or laparotomy without succumbing to the general intoxication or toxic peritonitis so frequently noted in these cases. Linossier, in the succeeding number, reported that the fluid from a quadruple hydatid cyst of the liver, injected into rabbits and guinea-pigs showed no toxic power even at the dose of 200 c.c. per kilogram. The urine, however, killed rabbits in a dose of 35.8 c.c. per kilogram.

December 13.

Pleuritic Effusion in Myelogenic Leukemia. A. Sicard.—Widal classifies pleurisy as tuberculous, mechanical and acute. Sicard describes a case of typical myelogenic leukemia in which a left pleuritis effusion was characterized by desquamated endothelial cells, usually clumped. The hypertrophy of the mediastinal ganglia and of the spleen confirmed the assumption that it was a purely mechanical effusion in this case.

December 20.

Lymphadenoma With Polynucleosis. Vaquez.—The post-mortem findings suggested an infectious polynucleosis, possibly secondary to the lymphadenic affection. The polyneucleosis should take its place between aleukemic and leukemic lymphadenoma, and is possibly a transitional process liable to terminate in true myelogenic leukemia. The patient was a woman of 30 with multiple adenomata which had been developing for thirteen months. The blood showed 3,456,000 reds to 570,000 whites when first seen, and 87 polynuclear to 13 mononuclear cells. Later there were 2,520,000 reds to 300,000 whites. Arsenic and all treatment proved ineffectual, including Metchnikoff's new leucolytic serum. A cough resembling that of pertussis was accompanied by sputa which contained almost exclusively neutrophile polynuclear leucocytes, as also the urine and pleuritic fluid.

Nord Medical (Lille), December 15.

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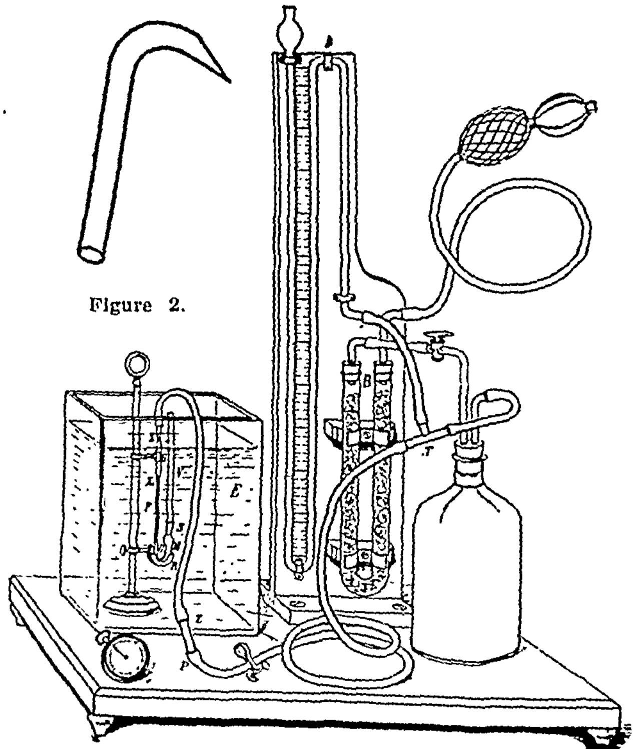

Figure 2.

Figure 1.

Deutsche Med. Wochenschrift (Leipsic), December 20 and 27.

Value of Vegetable Albumin in Food. A. Loewy.—Tests conducted by the writer at the Berlin Agricultural Institute resulted in establishing that vegetable albumin is utilized by the organism the same as animal albumin, and can substitute it perfectly in equal amounts. The amount of uric acid eliminated is much diminished, probably owing to the lesser quantity of nuclein in the vegetable albumin. This fact renders the latter especially advantageous in affections of the kidneys, gout, etc.

Bacteriuria in Typhoid Fever. F. Neufeld.—In three out of twelve cases of typhoid fever examined at the Berlin Institute for Infectious Diseases the urine suddenly became turbid and was found full of typhoid bacilli. Study of these cases and of the literature shows that this bacteriuria occurs during convalescence, and may recur for months afterward. The turbidity of the urine gives ample warning and the bacteriuria is promptly cured with urotropin with no ill effects. The importance of these statements for the prophylaxis of typhoid fever, especially in the army, is evident, as bacteriuria caused by the bacterium coli is not affected by the urotropin.

Esophagoscopy for Removal of Rubber Tooth Plate. G. Killian.—Skiagraphs failed to show the tooth plate which the patient said she had swallowed, but Killian succeeded in locating it by esophagoscopy and removing it by burning it through in two places with the galvanocautery and taking out each of the three fragments separately. The esophagoscope tube was 13 mm. in diameter and 42 cm. long, while the length of the copper tube for the cautery loops was 54 cm. The plate was made to hold a single tooth and the rubber burnt through easily, not requiring much heat.

December 27.

New Research in Experimental Tetanus. L. Zupnik.—Experimental tetanus has differed from spontaneous tetanus in man by the fact that in the former the wounded extremity is first involved and that the tetanus gradually spreads from there as from a center. In man, on the other hand, the trismus is liable to be almost the first symptom. Zupnik's researches have demonstrated that this difference is due to the location of the primary infection and to the involvement or non-involvement of muscle. Injecting tetanus spores or toxins into the dorsum of the foot, the tail or the hock of an animal, caused a descending tetanus exactly the same as in man, while the same substance injected into the thigh or the inguinal region and thus brought into contact with a powerful muscle constantly induced a typical ascending tetanus. In the former case the animal would bear twice the dose that would be fatal if injected in the thigh or inguinal region, and the incubation was very much longer, but when the symptoms appeared they were more intense. It will be an interesting question to decide whether the minimal amount of protecting serum is the same in both cases. This research shows that the location of the infecting wound has an influence on the amount of tetanus toxin elaborated; also that the intensity of the tetanus corresponds to the length of time during which the bacilli were able to develop in the wound unhindered. Thus Zupnik found he could vary the intensity of the tetanus at will with the same material and the same kind of animal. Pohl has suggested that the remarkably long period of incubation in tetanus may be due to a chemical transformation of the toxin by some tissue, which has to occur before it becomes really toxic. It is possible that the muscles are the tissue involved in this task. They evidently play a very prominent part in the pathogenesis of tetanus. The animals found most susceptible were in descending order, monkeys, marmots, squirrels, guinea-pigs, mice, rats, dogs, cats and rabbits.

Influence of the Prostatic Secretion on Spermatozoa. H. Lohnstein.—In 542 tests of the prostatic secretion on 80 patients the reaction was acid 404 times, or 76 per cent.: neutral, 30 times, or 5 per cent., and alkaline in 108, or 20 per cent. In only 5 of the 80 patients was the secretion found constantly acid. Further investigation demonstrated that the presence of pus had no appreciable influence on the acidity, nor did the reaction of the prostatic secretion modify the vitality of the spermatozoa. Retained testicular secretion seems to stimulate the secretory activity of the prostate.

Heat-Stroke. M. Herford.—During the unusual heat of last summer, Herford had occasion to observe four cases of sunstroke which differed from the ordinary type in their protracted course and in the disturbances in speech noted in two, one of which has persisted to date with pronounced ataxia. In one case that came to autopsy numerous small hemorrhages were noted in various organs, in the alimentary canal, liver and endocardium, similar to the hemorrhages observed in animals exposed to severe heat. In the cases described, the symptoms indicated hemorrhages of this nature in the medulla oblongata, causing the disturbances in speech and the ataxia, resembling the "acute ataxias" observed after some infectious diseases and certain intoxications.

Physical Methods in Treatment of Croupous Pneumonia. A. Tagesson-Moeller.—The benefits of intercostal frictions, side vibrations, abdominal massage and other physical measures in the treatment of croupous pneumonia have been recognized for years by Swedish physicians. This writer tabulates the state of pulse and temperature, breathing, etc., before and after these measures and the rapid hastening of the crisis or aborting of the disease which they induce.

Wiener Klinische Rundschau, December 23.

Therapeutic Importance of Hot-Air Douche. J. Marcuse.—All the inconveniences of the usual methods of applying superheated air for local treatment are obviated by Frey's hot-air douche, which Marcuse endorses as the most effective means of treating and curing rheumatic, gouty and neuralgic affections. The simple apparatus consists of a small electromotor, with turbine bellows, the heating substance, tubes for hot and cold air and a rheostat. A stream of hot air at 100 to 200 C. isues from a mouthpiece 2.5 cm. in diameter with such force that it is still a powerful jet at a distance of 125 cm.

Magnesium Suture Material. Chlumsky.—Magnesium is the ideal absorbable material for sutures, but it is difficult to tie. This can be obviated by using it in the form of a thin, narrow ribbon instead of a wire. Chlumsky also describes a double screw made of magnesium, which he has found very serviceable in fastening together the ends of a fractured bone.

Comparative Experimental Study of Immobilization and Massage in Fractures. B. Rossi.—Experimental research on sixty-six rabbits showed that the callus formed much more rapidly when the fracture was treated with massage than with immobilization. A provisory callus was evident by the fourth day with massage and by the eighth its consistency and stability rendered any support superfluous. With immobilization this effect was not attained until the twelfth or fourteenth day. Function was completely restored by the fourteenth day with massage, but not till the thirtieth with immobilization, and the microscope showed the callus completely ossified on the twelfth day with the former treatment, but not until the twentieth, with immobilization.

Annali Della Accademia Med. Chir. di Perugia, xi, 3.

Histologic Study of Cured Gynecologic Cases. E. De Paoli.—Eighty cases are studied and reported in detail. They demonstrate that congenital malformations of the uterus, especially bicornuate uterus, frequently cause abortions and by profound alterations in the structure of the uterine substance result in an exceptional fragility of the organ and liability to uncontrollable hemorrhage, which may require hysterectomy. Congenital atresia of the vagina may accompany atrophy of the uterus, and although the former may be cured, sterility persists, owing to the infantile condition of the genital organs. In most cases conservative operations for parametritis and salpingitis require secondary operations. Periuterine hematocele frequently causes progressive, repeated hemorrhages with no tendency to spontaneous resolution. Hysterectomy for cancer of the cervix is inevitably followed by recurrence of the disease, but in case of malignant neoplasms of the endometrium, has better chances of success. Neoplasms of the endometrium may originate in the mucosa of the Fallopian tubes, in which case they present the structure of a papilloma resembling an adenocarcinoma. Decidual sarcoma presents a great variety in structure, corresponding to differences in the clinical course. Inflammatory processes in the uterus rebellious to ordinary methods of cure require hysterectomy in certain cases. It may be regarded as a prophylactic measure against cancer, especially in cases of chronic erosion, rebellious ulceration or hemorrhagic endometritis in women near the menopause. Cysts of the round ligament sometimes have no connection with Nuck's peritoneal diverticulum, but originate from the inclusion in the ligament of epithelial elements of the Wolffian bodies or of the ovary, which are in contact with it during the embryonal life. They should therefore be considered true cystoadenomata of embryonal origin.

Semana Medica (Buenos Ayres), November 8.

Yellow Fever in the Rio Janeiro Hospitals. C. Seidl.—This communication by one of the editors of the *Brazil Médico* was read at the recent Brazil medical congress and tabulates the statistics of eight years, during which 19,990 yellow-fever patients were treated at the hospital, with 8742 deaths. The figures confirm the experience of others that the disease attacks preferably whites, the young and strong, foreigners and the male sex. Native Brazilians are seldom affected and the infection seems somewhat attenuated in them. The mortality is very low among sailors. They are sent to the hospital at the first indications of the disease, and receive proper treatment at once, while fully 10 per cent. of the townspeople are not brought in until moribund. The mortality is extremely high among the Italians, who become terrorized at the mere suspicion of yellow fever, and offer little resistance to the disease, 54.53 per cent. dying, while the mortality among North Americans is 38.33 per cent. and among native Brazilians, 30 per cent.

Revista Medica (Mexico), December 1.

Scorpion Sting. M. Herrera.—The application of a ligature is theoretically indicated to prevent the penetration of the venom from the bite into the general circulation, but Herrera has witnessed two cases in which gangrene ensued, requiring amputation of the arm or finger. Sweating follows the bite and is evidently Nature's means of eliminating the poison. This sweating should be promoted and the cutaneous circulation favored. Prompt revulsive action is advantageous, such as sinapisms, friction with ammonia or multiple dry cups, with pilocarpin or some other diaphoretic internally. The chief indication, as in tetanus, is to soothe the excitability of the spinal centers. Alcohol is directly contraindicated, but chloroform, chloral, bromid and antipyrin have each their indications, particularly chloral, which Herrera administers in the dose of .5 gm. at first, following with .1 gm. to .15 gm. every fifteen minutes in the case of a child and double this amount for an adult.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A Manual of Medicine. Edited by W. H. Allchin, M.D. Lond., F.R.C.P., F.R.S. Ed., Senior Physician and Lecturer on Clinical Medicine, Westminster Hospital. Vol. II. General Diseases—Continued. Diseases Caused by Parasites, Diseases Determined by Poisons Introduced into the Body, Primary Perversions of General Nutrition, Diseases of the Blood. Cloth. Pp. 380. Price, $2.00. New York: The MacMillan Co. 1901.

A Text-Book of Pharmacology and Therapeutics, Or the Action of Drugs in Health and Disease. By Arthur R. Cushny, M.A., M.D. Aberd., Professor of Materia Medica and Therapeutics in the University of Michigan. Second Edition, Revised and Enlarged. Illustrated with 47 Engravings. Cloth. Pp. 732. Price, $3.75. Philadelphia and New York: Lea Brothers & Co. 1901.

A Text-Book on Practical Obstetrics. By Egbert H. Grandin, M.D., Gynecologist to the Columbus Hospital. With the Collaboration of George W. Jarman, M.D., Gynecologist to the Cancer Hospital, Instructor in Gynecology in the Medical Department of the Columbia University. Third Edition, Revised and Enlarged. Illustrated with 52 *Full-page Photographic Plates* and 105 Illustrations in Text. Cloth. Pp. 511. Price, $4.00 net. Philadelphia, New York, Chicago: F. A. Davis Co. 1900.

The Use of the Roentgen Ray, by the Medical Department of the United States Army in the War with Spain. (1898.) Prepared under the Direction of Surgeon-General George M. Sternberg, United States Army, by W. C. Borden, Captain and Assistant Surgeon, U. S. Army. Cloth. Pp. 98. Washington: Government Printing Office. 1900.

On Some Cirrhosis of the Liver, Being the Lumleian Lectures for the Year 1900. Delivered before the Royal College of Physicians, London. By Walter Butler Cheadle, M.A., M.D. Cantab., Fellow of the College. With Illustrations. Cloth. Pp. 109. Price, $2.00. London: Smith, Elder & Co. 1900.

Diseases of the Heart: Their Diagnosis and Treatment. By Albert Abrams, A.M., M.D. (Heidelberg), F.R.M.S., Consulting [illegible] of the Chest, Mt. Zion Hospital, and the [illegible] Francisco. Cloth. Pp. 170. Price, $1.00 [illegible] Engelhard & Co. 1900.

[illegible] and Treatment. By John W. Wainwright. [illegible] American Medical Association. Cloth. [illegible] net. Chicago: G. P. Engelhard & Co. 1900.

A Clinical Treatise on Fractures. By William Barton Hopkins, M.D., Surgeon to the Pennsylvania Hospital. Cloth. Pp. 268. Price, $4.00. J. B. Lippincott Co. 1900.

Transactions of the American Orthopedic Association. Fourteenth Session, held at Washington, D. C., May 1, 2 and 3, 1900. Vol. XIII. Cloth. Pp. 335. Philadelphia: Published by the Association. 1900.

Sanity of Mind: A Study of Its Conditions and of the Means of Its Development and Preservation. By David F. Lincoln, M.D. Cloth. Pp. 177. Price, $1.25. New York and London: G. P. Putnam's Sons. 1900.

Annual Report of the Water Commissioners of the City of Middletown, N. Y., 1900. Paper. Pp. 48. Middletown, N. Y.: L. S. & J. D. Stivers. 1900.

Report on the Source of Water-Supply for the City of Middletown, N. Y. By William R. Hill, M. Am. Soc. C. E. Paper. Pp. 7.

Constitution, By-laws and Fee Bill of the Linn County Medical Association. Organized April 19, 1898. Paper. Pp. 8.

Proceedings of the Philadelphia County Medical Society During December, 1900. Paper. Philadelphia: Published by the Society.

Change of Address.

R. Broughton, Dwight, to Riverside, Ill.

W. W. Bennett, Meadow Creek, W. Va., to Ashland, Va.

G. P. Bearman, Bowbells, to York, N. D.,

C. E. Barber, 74 Capitol Ave., to 114 Jackson St., Atlanta, Ga.

Cora White-Carpenter, 579 W. Adams St., to 167 S. Sangamon St., Chicago.

Jno. Clear, 434 Atkin St., to 107 W. Park Ave., Knoxville, Tenn.

John Evers, Chicago, to Hinsdale, Ill.

J. W. Forshey, 416 E. Rich St., to 328 E. Towne St., Columbus, Ohio.

J. H. Flynn, Ballinger Bldg., to 2406 S. 6th St., St. Joseph, Mo.

C. H. Gurney, Sewanee, to Eagleville, Tenn.,

Geo. Galloway, 850 W. Harrison to 574 W. Congress St., Chicago.

G. M. Henbest, 343 Ogden Ave., to 732 Jackson Boul., Chicago.

R. R. Hogue, Sparta, Wis., to Fort Dodge, Iowa.

W. E. Hoxie, Belmond, to Hampton, Iowa.

S. F. Hodge, 213 Woodlawn Ave., to 684 Trumbull Ave., Detroit, Mich.

F. L. McKee, Search Light, Nev., to Box 1035, Plymouth, Pa.

Alex. Moulder, 1100 Cherry St., to 512 E. 10th St., Kansas City, Mo.

C. A. O'Quinn, 312 McIntosh St., to 543 Broad St., Augusta, Ga.

G. T. Palmer, 2604 Indiana Ave., to 2961 Groveland Ave., Chicago.

J. H. Peeler, Griffith, to Woodside, N. C.

B. J. Read, Blackwell's Island, N. Y., to Bedford Springs, Va.

J. A. Simpson, Oneida, to Citizens' Bank Bldg., Chattanooga, Tenn.

D. E. Stephan, 12 W. Church St., to 24½ W. Main St., Newark, Ohio.

H. H. Shelton, Gilboa, to Zela, W. Va.

E. E. Martin, 4935 Indiana Ave., to 80 Institute Pl., Chicago.

J. W. Shanks, 456 S. Wood St., to 229 Honore St., Chicago.

G. Wood, 143 E. 35th St., to 4410 Berkely Ave., Chicago.

Drs. Woodman & Harris, 12009 Butler St., Chicago, to 11933 Stewart Ave., West Pullman, Ill.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended Jan. 12, 1901:

Surgeon F. Anderson, ordered home and to wait orders when recruiting duty is completed.

Surgeon C. H. T. Lowndes, detached from the Naval Academy, Jan. 14, and ordered to the *Lancaster*.

Surgeon O. Diehl, detached from the *Lancaster* and ordered home to wait orders.

P. A. Surgeon B. R. Ward, detached from the Naval Hospital, Mare Island, Cal., Jan. 17, and ordered to navy yard, Boston.

Asst.-Surgeon J. B. Dennis, ordered to the Naval Academy, Jan. 14.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Jan. 10, 1901:

Surgeon Eugene Wasdin, granted leave of absence for fifteen days from Jan. 14.

P. A. Surgeon C. P. Wertenbaker, to proceed to Fontainebleau, Miss., for special temporary duty.

P. A. Surgeon W. G. Stimpson, to proceed to Cripple Creek, Col., for special temporary duty.

P. A. Surgeon J. A. Nydegger, to proceed to Chicago, and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon C. E. Decker, granted seven days' extension of sick leave from Jan. 4.

Asst.-Surgeon J. F. Anderson, having been assigned to duty in the Immigration Service at Liverpool, England, relieved from duty in U. S. Consulate at that port.

A. A. Surgeon W. S. Walkley, granted leave of absence for three days.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Jan. 3 *to* 9, 1901, inclusive:

Ira A. Allen, acting asst.-surgeon, from San Francisco, Cal., to temporary duty at the army and navy general hospital, Hot Springs, Ark.

Harry D. Belt, acting asst.-surgeon, from New York City, to Manila, P. I., on the transport *Wright,* for assignment in the Division of the Philippines.

Henry C. Bierbower, acting asst.-surgeon, from St. Edward, Neb., to San Francisco, Cal., en route for assignment in the Philippines.

Weston P. Chamberlain, lieutenant and asst.-surgeon U. S. A., from San Francisco Cal., to duty at Fort Adams, R. I.

Timothy F. Goulding, acting asst.-surgeon, former orders revoked; he is ordered from Boston, Mass., to New York City, to take passage on the transport *Wright,* to Manila, P. I.

Deane C. Howard, captain and asst.-surgeon, U. S. A., from Fort Hancock, N. J., to San Francisco, Cal., for transportation to Manila, P. I., and assignment to duty in the Division of the Philippines.

Thomas W. Jackson, acting asst.-surgeon, leave of absence extended.

Charles E. MacDonald, acting asst.-surgeon, from Fort Yates, N. D., to San Francisco, Cal., en route to the Division of the Philippines.

Arthur W. McArthur, acting asst.-surgeon, from Chillicothe, Mo., to Fort Yates, N. D., for post duty.

James E. Mead, acting asst.-surgeon, from Detroit, Mich., to San Francisco, Cal., en route to the Philippines.

Irving W. Rand, captain and asst.-surgeon U. S. A., from the Philippine Islands to duty as post surgeon, Fort Hancock, N. J.

Frederick P. Reynolds, major and surgeon, Vols., sick leave of absence from the Division of the Philippines extended.

Frederick W. Richardson, acting asst.-surgeon from St. Paul, Minn., to San Francisco, Cal., en route to the Philippine Islands.

Major A. W. Shockley, lieutenant and asst.-surgeon, U. S. A., leave of absence extended.

Frank E. Thompson, acting asst.-surgeon, from Cleveland, Ohio, to New York City, en route to Manila, P. I., on the transport *Wright.*

Henry A. Webber, lieutenant and asst.-surgeon, U. S. A., relieved from duty in the Department of Cuba, to New York City, for duty as acting quartermaster and acting commissary of subsistence on the transport *Wright* and subsequent assignment in the Division of the Philippines.

Archibald M. Wilkins, acting asst.-surgeon, from Delta, Ohio, to New York City, for transportation to Manila, P. I., on the *Wright*

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, U. S. Marine-Hospital Service, during the week ended Jan. 11, 1901:

SMALLPOX—UNITED STATES.

Alabama: Dec. 31, Girard, reported present; Phœnix, reported present.
District of Columbia: Washington, Dec. 29-Jan. 5, 6 cases.
Florida: Dec. 29-Jan. 5, Jacksonville, 1 case: West Tampa, 2 cases.
Georgia: Columbus, Dec. 31, reported present.
Kansas: Wichita, Dec. 29-Jan. 5, 12 cases.
Kentucky: Lexington, Dec. 29-Jan. 7, 2 cases.
Louisiana: Shreveport, Jan. 2, 2 cases.
Maryland: Baltimore, Dec. 29-Jan. 5, 1 case.
Minnesota: Minneapolis, Dec. 22-29, 3 cases.
Nebraska: Omaha, Dec. 22-29, 6 cases.
New Hampshire: Manchester, Dec. 29-Jan. 5, 18 cases.
New York: New York, Dec. 29-Jan. 5, 13 cases.
North Carolina: Caswell County, Dec. 1-31, 77 cases.
Ohio: Ashtabula, Dec. 29-Jan. 5, 1 case; Cincinnati, Jan. 4, 1 case; Cleveland, Dec. 29-Jan. 5, 39 cases, 1 death; Portsmouth, Jan. 5, 3 cases.
Pennsylvania: Allegheny City, Jan. 7, 1 case: Pittsburg, Dec 29-Jan. 5, 11 cases.
South Carolina: Greenville, Dec. 29, 1 case.
Tennessee: Memphis, Dec. 29-Jan. 5, 2 cases.
Utah: Salt Lake City, Dec. 29-Jan. 5, 34 cases.
Washington: Tacoma, Dec. 29, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, Dec. 8-15, 22 cases.
British Columbia: Nanaimo, Dec. 15-21, 5 cases; Vancouver, Dec. 1-31, 2 cases.
England: London, Dec. 15-22, 1 case; West Hartlepool, Dec. 9-15, 1 case.
France: Paris, Dec. 15-22, 8 deaths.
India: Bombay, Nov. 21-Dec. 4, 1 death; Calcutta, Nov. 24-Dec. 1, 7 deaths; Madras, Nov. 23-30, 1 death.
Russia: Moscow, Dec. 29-Jan. 5, 6 cases, 1 death; Odessa, Dec. 8-15, 41 cases, 10 deaths.
Scotland: Glasgow, Dec. 15-22, 72 cases, 1 death.
Uruguay: Montevideo, Dec. 1, 1 case.

YELLOW FEVER.

Colombia: Cartagena, Dec. 17, 1 death.
Cuba: Cienfuegos, Jan 8, 1 death; Matanzas, Jan. 3, 1 death.
Mexico: Vera Cruz, Dec. 22-29, 5 deaths.

CHOLERA.

India: Bombay, Dec. 4, 10 deaths; Calcutta, Dec. 1, 33 deaths; Madras, Nov. 30, 3 deaths.
Straits Settlements: Singapore, Nov. 17-24, 64 deaths.

PLAGUE.

China: Hongkong, Nov. 25, 1 death.
India: Bombay, Dec. 4, 70 deaths; Calcutta, Dec. 1, 23 deaths.
Japan: Osaka, Dec. 4-13, 3 cases: Wakayama Ken, Dec. 4-13, 5 cases; Yuasa, Dec. 4-13, plague reported.

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FISCAL YEAR.

The fiscal year of the American Medical Association is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the Association at the annual meeting in June, for instance, *pay only for the fiscal year which ends with the December following,* and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to The Journal for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

"Every paper received by this Association and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the Association. . . The Board of Trustees shall have full discretionary power to omit from the published transactions, in part or in whole, any paper that may be referred to it by the Association or either of the Sections, unless specially instructed to the contrary by vote of the Association." (From Article V of the By-laws.)

NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

Articles are accepted for publication with the understanding that they are contributed solely to this journal.

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ADVERTISEMENTS.

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CHANGE OF ADDRESS.

In ordering a change of address it is important that both the old and new addresses be given.

REMITTANCES.

Remittances should be made by check, draft, registered letter, money or express order. Currency should not be sent, unless registered. Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "Journal American Medical Association," except those for annual dues. These should be made payable and sent direct to the Treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago.

The Journal of the American Medical Association

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Original Articles.

MENTAL SYMPTOMS OF CEREBRAL SYPHILIS.*

JAMES H. McBRIDE, M.D.

LOS ANGELES, CAL.

Syphilis may be the cause, either immediate or remote, of every form of disease of the nervous system, from neurasthenic conditions to coarse brain disease, or insanity. The reference to cases that follow will relate chiefly to conditions of mental disorder.

Insanity due to syphilis has, in many cases, characteristics which though not easy to describe, are indicative of a specific origin. There is however a small proportion of syphilitic insanity that is represented by the usual forms of mental disorder. It is quite correct to say, therefore, that syphilitic insanity may mimic every known form of mental derangement, simulating acute mania, ordinary melancholia, terminal dementia or resembling so closely paretic dementia that experts may differ in their diagnosis.

There is nothing characteristic in the mania of syphilis while the maniacal stage lasts. and the same statement applies to forms of depression due to syphilis. The history of the entire course of the attack is, however, often suggestive of a specific origin. The mania of syphilis is, in my experience, apt to be of rather brief duration and followed by mental confusion or mental weakness with intervals of quiet and semi-lucidity, showing the usual irregularity of syphilitic brain affections. The same is true of syphilitic melancholia, as there is the same irregularity, brief depression with much confusion, outbursts of excitement, periods of stupor and early dementia.

While, therefore, these forms of syphilitic mental disorder may for a brief time be quite like ordinary forms of insanity, there are few cases that will, if their entire history be considered, fail to present the irregular features mentioned, and which may often be regarded as circumstantial evidence of a specific origin.

In the majority of the cases of brain syphilis the mental symptoms are largely negative. There is a loss of mental power; of self control; of the self-regarding virtues; of moral sense, and a general lowering of the individual mentality. The memory is much impaired, only the simplest kind of reasoning is possible; the emotions are imperfectly controlled; there is a state of dullness and indifference, occasionally broken by an outburst of causeless anger, or a fit of crying, or an hour of depression with a quick return to the prevailing state of mental apathy; these are prominent characteristics of the more common form of cerebral syphilis in which mental symptoms are conspicuous. That the early symptoms of cerebral syphilis are often irregular and obscure the following case illustrates:

A groceryman, age 32, had a primary sore at 22. Five years later developed what he calls "blind spells," which still recur. Once or twice each month, usually while working hard, he suddenly becomes blind and a little confused. He sits down for a few moments when the attack passes off, and he resumes work. In January last he became confused during the afternoon and spent the greater part of the night wandering in the streets. For a month he continued to work; he recognized people readily, but could not call their names nor add a column of three figures; would give the wrong price to customers on common articles, enter still another price on the books or forget to make the entry; would ask the same question and give the same order several times. Every evening, for two months after this, he had attacks lasting ten minutes, during which he would stare wildly and talk more or less incoherently about becoming insane. These attacks ceased and he has steadily gained. He now attends to business, but is easily tired and confused and says that he lacks his former self-confidence.

The following two cases illustrate this form of syphilitic mental disorder, the form shown in mental weakness with quickly changing and incongruous delusions, with loss of memory and interests and more or less confusion of mind.

A man who had a primary sore and secondary syphilis at 31 came under my care when he was 41 for mild mental disorder that was clearly due to syphilis. His mental breakdown was probably hastened by occasional brief periods of drinking, a habit that is frequently a contributory cause of an irruption of brain symptoms in the specifically infected. He was in a state of quiet confusion, mistaking the identity of people, recognizing old friends in the physicians and attendants, who were strangers to him. He would say to-day he was in Europe, traveling for his health; to-morrow that he had been kidnaped by bandits, the next day that he was in prison for crimes he had committed, or in his own home, and yet he was quiet and contented, showing none of the interest of a traveler, the concern of a criminal in his fate, nor the anxiety of one who had been kidnapped. There was occasionally an hour when he was much depressed; at other times he would have brief periods of mental clearness, though the prevailing state was that of confusion and mental weakness, with occasional and rather indifferent reference to his delusions. During a period of six months he gradually improved and has now been entirely well for nine years.

This is the longest interval of health I have known to occur in such a case, and from my observation recoveries for such a period of time as nine years are rare. It is worth remarking here on a peculiarity of the insane syphilitic, which is the detachment of his life from his delusions. There is frequently, if not generally, an incongruity between the conduct of an insane person and his pretensions, yet this is so marked in the syphilitic insane as to have a diagnostic significance. Though the paretic does not see the inharmony between his grand schemes and his poverty and helplessness, he at least shows some earnestness and enthusiasm. The paranoiac is intense and vehement, and chafes under the indifference of his friends or the restraints of an asylum, and even the chronic delusional insane person takes pride in his fancies and sincerely believes in them.

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* *Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.*

The syphilitic insane person of the type we are now considering has a different attitude toward his delusions. He will speak of them day after day, rarely repeating in any two successive days the same delusions and may even have no recollection to-day of those he spoke of yesterday with great detail. The chief peculiarity, however, is that he seems to have little interest in his delusions; he speaks of them without feeling, interest, or enthusiasm; they do not excite his resentment for fancied wrongs; he speaks of supposed injuries done him as though he were a third person, and repeats his delusions with the mechanical and indifferent manner of one who is reciting something from memory.

This quiet monotonous reeling off of incongruous fancies that seem to correspond to no desire, that awaken no interest, that lead to no plans, nor take shape in action, that seem to come and go like the confused and hurried impressions of a dream, are distinguishing features of this form of syphilitic insanity. The break between the thinking process and the actualizing and realizing impulses must be serious, and of a kind that is special to this condition. There must be special lines of pathologic progress, undoing with the strict orderliness of growth the complications of cerebral structure, and which is shown in the confusion of the habitual thought processes, in the peculiar dissociations of reason.

Another case of this quiet, confusional form of syphilitic insanity was that of a woman whom I treated for two years, and who had been infected by her husband. Two years after infection she showed signs of mental failure, which at first was mild depression, but in a few months passed into a condition of weak-mindedness and indifference to her surroundings. During the eight years she has now been insane there has been little change in her mental condition. She is quiet, dull and apathetic, having no interest in what is going on; indeed much of the time apparently unconscious of her surroundings, being inactive and inert mentally and physically. At times she has several hours or a day of partial sanity; she will ask anxiously for her husband and children, and speak of her home and friends. Gradually her mind relapses into the habitual state, or this may take place after a day of melancholic depression. During her dull periods her speech is mumbling and indistinct; words are omitted or recalled with effort and proper names hardly at all. During the brighter periods she speaks naturally and correctly,

This quiet, apathetic, mildly varying condition, with long periods of confusion and dulness, occasional and sudden return of apparent sanity with depression or short attacks of hysteria and return to habitual mental state, furnishes an epitome of the mental symptoms of a very common type of syphilitic insanity.

Insanity may occur in the syphilitic very soon after the appearance of secondary symptoms. One has been reported in which a man became insane with characteristic mental symptoms within three months after infection. I knew a case to develop within six months. A business man under my care showed some moral perversion, extravagance, inability to apply mind, loss of interest in family and business, with decided loss of mental vigor and brief periods of depression, within six months after contracting syphilis. A few weeks later he became very stupid, had to be dressed, and at times fed. Under treatment he made a fair recovery and resumed business for some months, when without any apparent mental failure, he became shamelessly immoral, abandoned his family, and finally disappeared. Cases of this kind have more interest for the general practitioner than some of the more severe and commoner forms of syphilitic insanity because such cases may not be committed to an asylum, but remain at large to cause the family and friends and the physician much annoyance.

The prospects of ultimate freedom from return of the disease are poor, and we should expect this to be so, for so highly organized a tissue having been injured by structural change, a tissue in which complete repair never takes place, it is hardly probable, indeed it is rarely possible, in the declining vigor of later life or in the strain of work in active life, that one should escape a return of the disease.

It is important that we appreciate the normal resistances of the body and know their limits as nearly as we can. A decayed tooth may set up a neuralgia that may continue as a habit after the removal of the tooth, because the resistances of the nerve center once weakened fail to regain the normal vigor. The doctor who has had much to do with those who have broken down from so-called overwork, that is, the worries, the anxieties, the excitements, disappointments, dissipations, irregularities of life, knows that these people rarely regain the vigor they once had and he knows, too, how difficult it is to keep them from relapsing into the morbid state. Heart-strain, neuralgias, headaches, affections of the stomach, neurasthenia, show the truth of this statement; that is, the peril of once breaking down the resistance of any part of the body. Half our work as physicians is in treating diseases that are the result of some part having been weakened from ill use and which ever after is an invalid organ, drawing a heavy pension from the system for its disability. It is true of syphilis in a special sense that it devitalizes the system, producing a vitiated tissue life that easily takes on disease and when it has once attacked the brain and thus made a positive break in its structure, it is pretty certain to return. The repairing power of the brain tissue proper is most imperfect, only functional diseases that testify to molecular change are ever repaired, so quickly does the brain take on abnormal habits and so easily does it drop to a lower level of function. The injuries done to nervous structure from syphilis are, too, not only unrepairable; but they are from their very nature, when they contain the specific poison, infection foci that multiply by many figures the chances of further disease.

It is one of the characteristics of syphilitic disease that its pathologic changes are in many if not most cases diffuse, variable and irregular, and the symptoms of syphilitic mental disorder correspond to this law, if it may be called a law. The same individual may present manifestations of wild excitement, melancholic depression and mental apathy and even stupor within a few weeks.

A man of 34, under my care suffering from syphilitic insanity, was usually quiet and slightly confused, and at such times expressed no clearly defined delusions. About once or twice a month he would be excited for three or four days, would keep walking rapidly from morning till night, preferring to walk in a circle on the lawn and carry an umbrella even on cloudy days. Said he was the Duke of Argyle, and that Queen Victoria had declared him her special favorite. He wrote letters to the queen, calling her his dearest love, and yet would make a proposal of marriage to one of his female servants if opportunity offered. He boasted of his intellectual capacity and physical prowess and was dictatorial and offensive in language. Later he would suddenly become very dull, denying his delusions and be for days too stupid to care for himself. He became very weak-minded, and finally died of hemiplegia, due to thrombosis. This was probably a case of arterial disease with starvation of the brain and slow degradation of its essential structure.

Another form of syphilitic insanity is one in which the patient is at first irritable, suspicious, and develops delusions of personal injury or persecution. He may believe others are trying to poison him or ruin his business and kidnap his family, and yet, as has been stated, there is decided mental apathy, a lack of any spirit of resentment or any thought of attempt at self-protection. Later the patient ceases to speak of his delusions, becomes weak-minded and contented and occupies himself with trivialities and simple routine work. A case of this kind was under my care for two years, and while very much enfeebled mentally, was taken home where, during an hour of depression, he drowned himself. Other cases will reverse the order of symptoms and show the quiet, easy-going demeanor of this man for some days or weeks and then suddenly become irritable and suspicious, and give expression to many delusions. Shortly there succeeds a mental dulness almost amounting to stupor and which continues for several days, from which the patient may temporarily pass into a condition of partial lucidity lasting only a few hours or a day before the return of the habitual mental state. Such cases illustrate and emphasize the statement that the symptoms of brain syphilis are variable, irregular and unpredictable in any given case. A young man of 30 who had contracted syphilis at 20 showed some mental depression and loss of memory and was taken to the hot springs. Soon after going there he became mildly melancholic. He was greatly emaciated, a very common thing in early syphilitic insanity, and at the same time showed mental confusion that was out of proportion to his depression; this being of itself suggestive of syphilitic origin. This condition continued for several weeks. He then gradually ceased to mention his ideas of sinfulness, etc., and showed symptoms of extreme dementia, was stupid and soiled himself, was fed by an attendant and for weeks was unable to walk from physical weakness and mental apathy. Afterward he came out of the state of stupor, became very irritable and suspicious, struck his attendants, broke window lights, and was rather difficult to manage. Later he was quieter and became subject to sudden attacks of extreme terror, during which he would attempt to escape from some fancied danger. After half a minute this would pass off, and he would feel dull and listless, and have no recollection of the occurrence. It was probably cerebral epilepsy. After eighteen months he was greatly improved, his mind was fairly clear though perceptibly weakened, was taken home, and in about two years died of an acute attack of brain disease.

It is a common observation that many inebriates become syphilitic, and it is often observed that the mildest degree of brain failure may lead and does lead to the drink habit, so early does the disease weaken the moral restraints. It is well known, too, that an old and latent syphilis is made active by drink, and I have found, too, that syphilitic inebriates are particularly liable to commit suicide after a drinking bout. So many people who have nervous syphilis are also inebriates that it is not easy to allot to each its etiologic value.

Other cases of syphilitic mental disorder may present mental symptoms of a systematized delusional type and continue without apparent change for years. Such cases, however, are pretty sure finally to show confusion and weak-mindedness and irregular and gross brain failure.

The relation of syphilis to paretic dementia has been much discussed, some claiming all paretic dementia is due to syphilis and others that it is only an occasional cause. Some forms of syphilitic insanity are certainly much like paretic dementia. I think that the cases that are strikingly alike are often due immediately to conditions that are alike. We know that paresis occurs in the prime of life, exceptionally in the developmental period, and that it is usually immediately due to stress, to overwork, business cares, worry and all those causes that test the endurance of men in active life over long periods. The syphilitic insanity that so closely resembles paresis usually develops under much the same circumstances, syphilis being a cause in the sense that it weakened or broke down the defenses of the system. In most cases of syphilitic insanity, there is less tendency to delusions of grandeur, more frequent paralysis of cranial nerves and, more frequently, attacks of gross brain disease leading to local softenings and focal symptoms. Recovery from syphilitic insanity apparently sometimes occurs, paretic dementia is probably never recovered from.

In addition to these types of purely mental disorder due to syphilis, there are others in which mental failure may be associated with evidences of gross brain disease and focal signs. A young man, aged 31, under my care, had ten years previously had primary syphilis, his only brother having died of syphilitic brain disease at his age. He spent money foolishly, neglected his business and indulged in immoralities. When I first saw him he was good-natured and jolly. He boasted of his travels and business ability, neither of which was extraordinary. He was somewhat confused and weak-minded, his speech being drawling, trembling and hesitating, with a dull expression and a senile tremor of his hands. One day he would be cheerful, active, interested in the news of the day, and talking agreeably and coherently, the next day he would be dull, slow of speech, and confused mentally. Later he had temporary attacks of paralysis of an arm or leg. Later in the disease he had an attack of hemiparesis with convulsions beginning in the hand of the paretic arm and extending in Jacksonian order to the entire side. With this there was a condition of quiet delirium in which he saw processions of gaudily dressed demons marching about the ceiling of his room, grinning at him and threatening and making gestures. The paralysis gradually became complete in four days, and passing into coma he died. There was no autopsy.

F. W. Mott relates the case of two brothers, both of whom had syphilitic insanity of the type of the case I have just recited, and in one an autopsy showed cortical arterial disease. My patient had also what is common in the syphilitic, a number of irregular and temporary attacks of aphasia. Charcot long ago called attention to this as being characteristic of syphilitic brain disease.

Though physicians may differ regarding the curability of general syphilis, few, I think, who have had much experience with syphilis of the nervous system, will hold that these cases are safe from a return of the disease. The man who has had brain syphilis in any form or degree, however well he may appear to be, is permanently crippled in the most vital part of his body, and he can only hope to avoid a return of the disease by a careful way of living that few men have the courage to adopt and fewer still escape relapse by adopting. When indeed can we say that one has recovered from syphilis? The word recovered must be used here in a different sense from that which it bears when applied to other diseases. Here is a man of fine physique and great endurance who shoulders his way easily through resistances and is never sick and a stranger to tire. He has a primary sore and mild secondary symptoms. He is outwardly the same as before and may go on for years in perfect health, when after some unusual stress or irregular habits the syphilis may reappear and possibly prove quickly fatal. The virus may not remain long in the system, but it certainly modifies the tissues so that their resistance to stress, to disease and to all unfavorable conditions is much reduced.

The first case in the series here reported as having recovered nine years ago has recently developed epilepsy of an irregular type. This man denied having syphilis, but his brother, who knew of his having had it, furnished the information. Under rest, treatment and steady habits, patients improve astonishingly, but from lack of care of health, dissipation or overwork, years of health may end in a relapse. Sometimes symptoms, such as headache and insomnia may return, or cranial nerve paralysis may recur, or an entirely new group of symptoms develop, indicating new brain territory involved. A syphilitic hemiplegia may be recovered from, to recur later on the same side, or on the opposite side, or on both sides, and this be the result of a debauch, or of an illness, after an interval of years of good health.

A bad heredity will, of course, add to the dangers of brain disease in those who are once infected with syphilis, the heredity being an element in the disease to the extent that it furnished a nervous system whose resistive powers were weak. The nutritional habits of such a system, though normal to it, are yet next of kin to the pathological and it is not surprising that it should have a fatal affinity for the specific virus. Many men are made of crumbly material. but if they escape stress and the incidence of special poisons, they may slip through life unscarred, but let adversity test the quality of their endurance or poisons like tuberculosis or syphilis attack their weakly organized tissues and the results are quickly serious. In some cases where the brain is involved this may be due to the complexity and instability of this highly organized tissue, which makes it an easy victim for a poison. I have seen such a large proportion of brain syphilis among intelligent people that I have come to believe that, other things being equal, the intellectual man who has contracted syphilis is more liable to have his brain attacked by it than another man who may also have had syphilis, but whose mental capacity is of a lower order.

This is apparently contradicted by what I believe to be the fact that intellectual or intelligent people are less liable to insanity than those who are ignorant or of inferior capacity, for of the vast multitude of those who annually go to our insane asylums, only a fraction are really intelligent people, a fraction much less in proportion than the relative numbers in the general population. It is essentially true, I think, with certain qualifications, that insanity is a disease of ignorance and incapacity. It represents the failures in the life-adjustments which to the intelligent are simple and easy; the cultured and intellectual are protected against insanity because of their more correct view of life, because of their variety of mental occupation, which allows them to escape that which more than any other one thing determines insanity, namely, monotony of life and unrelieved and unvarying mental strain, however rude the work may be or simple the strain.

I do not, however, believe that this law of the mental self-protection of intelligence holds in syphilis, because we have there the brain of both the dull man and that of the wise man exposed to the same poison; they are both prisoners in the same cell, with the chances in favor of the dull man, whose brain, being of a low order, is of a more primitive and stable type of structure, and therefore presents not only an older and tougher tissue to the poison, but it also presents fewer points for the poison to attack.

Though it is possible to distinguish between syphilis of the membranes, of the cerebral arteries, and of the brain tissue proper, from personal experience I should say it can only be approximately done. In cerebral arterial syphilis the symptoms are those of deprivation, the brain is starved. The gradual destruction of the brain functions proceeds unequally, however, not uniformly. The lumen of a vessel is finally closed and there is local spasm and paralysis if in a motor region, which may be early recovered from as collateral circulation is established. A few days later these collateral vessels also suffer and there is a return of the paralysis which lasts longer and is only incompletely recovered from, and then later the whole limb or the side becomes paralytic, when the vessels are permanently closed. This irregular recurrence of symptoms indicates the imperfect and haphazard blood-supply against which the starving and failing brain contends.

Coincident with this there are usually attacks of aphasia of a transient and irregular order, and due to the same condition of arterial failure. A number of times I have followed such cases from the beginning of cerebral failure through all the kaleidoscopic changes of the disease until the patients died paralytic and demented. In one case I noticed that when the patient took a long walk or played tennis he had transient spasm in the right leg and arm followed by temporary paralysis. If he talked any length of time he developed a temporary ataxic aphasia, showing what little reserve power was left to the brain as the blood-stream was gradually shut down.

Cerebral arterial syphilis may exist without meningitis, but syphilitic meningitis rarely exists without arteritis, perhaps never.

In meningeal syphilis there are local paralyses rather irregular in distribution, sensory phenomena, especially headaches and neuralgia, and cranial nerve palsies in basal meningitis. The mental symptoms are of an active kind, delirium, or even furious violence, though there may also be attacks of stupor.

The signs of gumma, though sometimes definite, depend upon their number, size and location. In a general way, it may be stated they are those of a tumor if the gumma is local.

Those familiar with nervous syphilis know how promptly specific treatment may relieve conditions that in cases other than syphilitic would be hopeless. The relief is not, however, wholly due to the specific nature of the disease, but partly to the tissue involved. F. W. Mott's investigations show what syphilitic degeneracy is in the mesoblastic tissues, the membranes, blood-vessels and lymphatics, and that the neurons are involved indirectly. If the nerve cells were directly attacked by the virus they could not be repaired, being, as they are, perpetual elements, and we would not observe those cases of quick relief of serious symptoms, as we so often do in cerebral syphilis. The disease of the membrane and vessels is, however, reparable within certain limits and the neurons may be restored to function when the pathological conditions of these parts are removed. The symptoms of cerebral syphilis may be due to various morbid processes, in one case to arterial occlusion, in another to pathologic lymph which fills the pericellular spaces and arrests or perverts the function of the neurons, in others to rapidly developed and perhaps temporary internal hydrocephalus due to stoppage of foramen of Majendie by inflammatory adhesions, according to Mott. The temporary attacks of drowsiness and stupor in cerebral syphilis are probably sometimes due to this condition. In cerebral syphilis, and also in paretic dementia, there is probably always some autointoxication from pathological conditions of blood and cerebrospinal fluid. When the myelin sheaths undergo degeneration cholin is formed, and this being a poisonous substance, is another element in the widening circle of disease.

That some people have severe general syphilis, while the nervous system escapes, and others have mild general syphilis and malignant syphilis of the nervous system, is a well-known fact. Hitzig claims that there are several toxins in syphilitic infection, and it is possible that they may have special affinities for special structures and that the activity of one and another varies in different infections. Some strains of syphilis may be more potent than others, some people are probably more susceptible than others. A French author has reported the case of a woman who infected five youths with syphilis, three of whom died of general paresis and the other two of brain syphilis. In such a case it is more probable that there was a special malignancy in the virus than that the five men were specially susceptible to syphilitic degeneracy of the nervous system.

There is no morbid condition in which it is so important to its proper understanding that its entire natural history be studied as that of insanity, and this study should include its developmental period, during which the morbid mental habits were forming and the morbid condition organizing. In this way, and only in this way, will we learn the order of progress from the beginning. This is necessary, too, not only that we may understand the disorder as a whole, but more than anything else, it promises that by thus tracking insanity to its source we may be able to achieve something in the way of its prevention. In this connection all conditions showing analogy to insanity help to explain its nature, such as conditions of mental defect, drunkenness, somnambulism and the phenomena of brain dissolution in old age.

The quiet forms of syphilitic insanity have in their symptomatology much in common with the mental history of the senile and, indeed, it may be said of all forms of insanity that they represent in some respects a premature and irregular senility. In senility we witness the slow undoing of the brain structure, which during life has been gaining in complexity, in accuracy of balance and adjustment, in multiplicity of relation, and which in senile degeneration of the brain is undone from the top, leaving the individual with the capacity of the child and with the instincts of the primitive man. The resemblance is more striking between senile mental changes and those of paretic dementia and syphilitic insanity than in other forms of mental disorder, possibly because of the more deliberate and systematic development of these special insanities. In these forms of insanity the higher faculties are easily seen to fail first, and they fail first because the delicately organized tissue of which they are the function is the last evolved and most unstable part of the brain, and therefore easiest and first involved in the degenerative process. In all cases of slow developing insanity the higher faculties are the first to go. The judicial mind fails in the summary of knowledge and in comprehensiveness of grasp, the musician loses the ability to interpret the higher conceptions of the master, the business man fails in quickness of perception and in those accuracies of judgment that divide success from failure, and all of these repeat in a general way the order of the unmaking of the brain in senility; that is, nature unravels from the last stitch that living fabric into which the generations of men have woven their experiences.

DISCUSSION.

Dr. Daniel R. Brower, Chicago—I am glad that I heard the masterful paper of Dr. McBride. I can add my testimony to his, that in the differentiation of these cases, the peculiarity of the mentality and the bizarre character of the symptoms are invaluable aids; and, again, the condition of arterial nutrition is most important. Pre-senility of the arteries, in the absence of interstitial nephritis, tuberculosis and gout, point almost unerringly to syphilis. I am also fully in accord with the paper in prognosis.

Dr. H. A. Tomlinson, St. Peter, Minn.—In these cases degenerative change takes place early in the anterior portion of the brain. In the course of this degenerative change the anterior branches of the Sylvian artery and the anterior cerebrals are the first to show marked evidence of atheroma, and the white streaking of the pia along the line of the blood-vessels appears earlier here than elsewhere. The location of these early changes explains the manifestations of mental disturbance in brain syphilis; because from these vessels comes the blood-supply to the area anterior to the precentral fissure. We all know that there are a large number of cases of syphilitic brain disease in which there is no mental disturbance whatever, and that the only evidence of nervous disease is some form of paralysis or aberrant manifestation of motor disturbance. In fact only a very small portion of those infected with syphilis become insane or suffer from nervous disease. The victims of syphilitic brain disease who become insane, so far as my limited experience goes—for we do not see much syphilis in the hospitals for the insane in Minnesota—are almost invariably the children of the tuberculous, syphilitic, or alcoholic; in other words, they are born with a limited vital potentiality, and it shows itself in the tendency of all disease changes to take the form of connective-tissue increase. For that reason there is naturally a more rapid and complete development of atheroma. This structural defect would indicate why these people are affected with degenerative changes, while those without this hereditary tendency have only the ordinary manifestation of syphilitic disease. I also want to speak of the difference in the manifestations of mental disturbance in the so-called second and third stages. I believe that early involvement of the brain in the unstable and defective after syphilitic infection is more common than is generally thought; especially when the involvement of the nervous system apparently takes the place of the ordinary external manifestations of the disease. I have had two cases in my own experience, in which I had positive evidence of the infection; both were young women married to men who had been recently infected with syphilis, by their own admission. In one case the insanity appeared in the second and in the other the third month after infection, and in neither one of them were there any of the external manifestations excepting a little sore throat. In both the mental disturbance began just as described by Dr. McBride, and passed rapidly into maniacal excitement with grandiose ideas. In those cases in which the affection comes on later, when degenerative changes in the blood-vessels are obvious, the manifestations would necessarily be those of progressive mental reduction, with confusion and cyclical outbursts of excitement. In the two cases referred to, the excitement passed into delirium and both died. Post-mortem the conditions found were characteristic of delirium; but at the base of the brain, in the anterior ascending arm of the Sylvian fissure and the lateral and third ventricles, especially about the velum and choroid plexuses, there was some thickening and exudation. There were also white streaks along the vessels of the pia over the frontal lobes. In another case, a young woman, a prostitute, was admitted to the hospital in a moribund condition. There was at the base of the brain, extending from and involving the optic commissure, on each side, a series of disc-like tumors from 1 to 4 cm. in diameter, apparently starting from the pia and destroying the cortical substance of the knee and foot of the first and second frontal convolutions and the olfactory lobe. The pia was very dense and thick. The white matter of the anterior portion of the frontal lobes was gelatinous. This girl had a history of having been insane for about seven months, and had been delirious for two days before admission. In this case the velum and choroid plexuses were also involved.

DR. H. H. LEVY, Richmond, Va.—I would like to ask those whose experience is greater than mine, whether they have observed as a precursor, or as an early symptom, of brain syphilis, a terrific pain in the middle line of the cranium, on and about the sagittal suture. In two cases which I have seen, it was an initial symptom.

DR. G. W. MCCASKEY, Fort Wayne, Ind.—I wish to emphasize the importance of the group of cases of insanity developing very early in the course of syphilis. When syphilitic insanity is spoken of, I think we generally have in mind those connected with the tertiary stage. I recently saw a case in a young attorney of 25, who contracted syphilis, and about a month later developed an acute psychosis. Death resulted, and post-mortem examination was absolutely negative. There had been temporary aphasia, such as frequently occurs as a brain symptom of syphilis. The syphilitic toxin may be fairly suspected of having produced such nutritional changes in the central nervous system as led to the insanity. However, it should be stated that the patient was a neurasthenic, and had been subjected to severe mental strain.

DR. T. D. CROTHERS, Hartford, Conn.—In my studies of the etiology of alcohol and opium cases I am continually surprised to find how often these diseases follow the infection of syphilis. Within a few weeks and in some instances months after the infection of syphilis the alcoholic craze appears. If the brain is particularly sensitive to alcohol and suffers from delirious states opium will be used and alcohol abandoned. I think I may say that from 8 to 10 cent. of the alcohol and opium cases can be traced to syphilis. Many of these persons may have been moderate users of alcohol before the infection. Others have been temperate and abstainers. It is clear to me that the poison of syphilis in many cases concentrates on certain brain centers producing irritation and exhaustion, for which alcohol and opium are most grateful narcotics. In a study of these cases it would be well to remember that the alcoholic and opium addictions are symptomatic of the degeneration of the nerve centers. This fact suggests therapeutic measures which are often very effectual.

DR. W. G. SPILLER, Philadelphia—I should like to ask Dr. Tomlinson whether he makes a distinction between secondary and tertiary syphilis in regard to the nervous system. It is the view of many neuro-pathologists that involvement of the nervous system may occur almost any time after the primary infection—a few months or many years—and that the distinction of early and late lesions can not be made in regard to the nervous system.

DR. HUGH T. PATRICK, Chicago—I should like to say a word apropos of what Dr. Spiller has just said. The sooner we abandon the old distinction between secondary and tertiary syphilis, especially in the nervous system, the better it will be. Aside from the insanity and the delirium which come with the secondaries, and which are to be classed, I believe, as disturbances due to infection, just like the disturbances of any other infection, there should be no distinction whatever made betwen secondary and tertiary changes in the diseases of the nervous system. The element of time should not be considered. I have seen in three or four months organic changes which could not be distinguished from those occurring four or five years after infection. I should like to emphasize the fact that these so-called tertiary symptoms occur as a rule within the first few years after infection, and that a period of quiescence of ten years after the first infection practically excludes brain syphilis. Brain syphilis occurring ten years after infection, that ten years having been a period of quiescence, is exceedingly rare.

DR. J. H. MCBRIDE, closing—I suppose it is essentially true that syphilis of the brain, occurring after 10 years, is rare, although I have seen cases occurring much later. Fournier mentions a case of a patient entirely well for 17 years, who then died from cerebral syphilis. Jonathan Hutchinson, Jr., has reported a case where the patient remained well for 32 years, and then died of syphilis. I have had several cases that remained well for 10 years and then were fatally affected. As to the circulation, I suppose Dr. Brower is correct. Dr. George Oliver has shown that in cases of syphilis, even soon after infection, the normal variation of the arteries on standing and reclining does not take place. I think Dr. Mott has said that syphilis never strikes without warning, and it is important that these cases should be dealt with by one who understands these warnings. On my way East I was consulted by a man who had what he called "blind spells," probably cerebral epilepsy, and who recently had an attack of confusion lasting several weeks, evidently incipient cerebral syphilis. He had been told he was bilious.

A REPORT OF SEVEN OPERATIONS FOR BRAIN TUMORS AND CYSTS.*

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The early wave of enthusiasm which followed the brilliant successes of Macewen, Godley, Horsley and Keen has been gradually displaced by an amount of pessimism which is unwarranted by the cumulative results of brain surgery for tumors and cysts. The pendulum has swung too far to the side of non-interference. This has been the direct result of numerous unwarranted operations in cases of suspected brain tumor, or in cases where the tumor was not accurately located. I feel safe in saying that hundreds of such cases, at a very low estimate, have been operated upon, which will never be spread on the annals of surgery or neurology. These are the cases which have done great damage and have been the cause of the pessimism which prevails, not only among the profession at large, but what is far worse, among the laity, who are only too apt to remember the failures and forget the successes, especially if the former outnumber the latter.

It is true that the enthusiastic hopes and predictions of the early enthusiasts have not been verified, but the fact remains that the fields for brain surgery for tumors and cysts, although very much narrowed, is still a considerable one, and one in which relief can be given and much good done. Pessimism always leads to inactivity and nihilism. Many a life could be prolonged, made more comfortable, and even saved, if the general practitioner and the general public once more felt the confidence born of successful results obtained in well-selected cases. Even in the latter, the mortality will always be great on account of the unwillingness of patients to be operated upon in the early stages. But, if we consider, that with the extremely rare exceptions all cases of brain tumor are fatal, even the large mortality will not deter us from, not only advising, but urging operations. It would seem too much to hope that the history of cancer operations might be repeated in brain surgery, but the principle is the same, and the success might be equally brilliant if, as in cancers, operations are done early on well-selected cases. In this way we may hope that the confidence of the general practitioner and of the public will be restored.

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Case 1.—Mr. L., aged 32, was admitted to the Cincinnati Hospital, June 22, 1893. His family history was negative; he denied syphilis and gonorrhea, and had never been sick before. He stated that his trouble began three years ago with cramps in the left foot and arm; which came on at intervals of a few months. About six months before his admission they became more frequent. The convulsions invariably began in the left foot, extending up the left leg, arm and face and then became general, and after lasting a few minutes, were followed by unconsciousness and somnolence. He had violent headaches and frequent attacks of vertigo, but had never vomited. His mental condition had deteriorated somewhat, and he had become apathetic.

The examination was entirely negative; the left papilla was somewhat injected and the margins were indistinct. There was no weakness of the left side of the body, or of the left extremities, and no loss of sensation.

On June 24, the patient had another typical convulsion, as described above, which was followed by a well-marked weakness of the left arm and leg, with increased tendon reflexes, but no disturbance of sensation. The trouble was now diagnosed as tumor in the right foot center. On June 28, 1893, Dr. Ransohoff trephined over right foot center, and extended opening over superior right parietal lobe. There was no bulging of the dura mater, but when it was opened the tumor was found in the region of right foot center extending over into the parietal lobe. It was the size of a hen's egg; its cavity clean, and it seemed to spring from the pia mater. The tumor was shelled out with but little difficulty; the wound healed by first intention, but there was a boggy, protruding condition of the skin and subcutaneous tissue.

On awakening from the anesthetic there was found a total paralysis of the left arm, and the patient was not able to make even slight movement of the fingers. He had recurrence of his epileptic attacks once, a few days after the operation. With this exception the recovery was uninterrupted—no fever at any time. In a few weeks he was able to get up, and in six weeks left the hospital. There remained, however, a slight paresis of the left arm and leg, with slight spastic rigidity.

Seven years after the operation the patient is still alive; there has never been any recurrence of the tumor; the hemiparesis has, however, increased; his mental condition is good, though he has occasional epileptic seizures of the Jacksonian type. In this case the operation saved the life of the patient; relieved his head symptoms and diminished very markedly the number of epileptic seizures, although it failed to completely cure him.

Case 2.—T. B., aged 18, occupation coal miner, was admitted to Cincinnati Hospital July 15, 1893. His family history was negative; there was no history of tuberculosis, phthisis, or syphilis. According to his father, the trouble began in the latter part of December, 1892, when the patient fell and is supposed to have struck the back of his head. Close questioning revealed the fact that headache, dizziness and nausea existed for some time before the fall, which was probably the result of the vertigo. Afterward these symptoms increased, with the exception of the vomiting, which the patient had only occasionally. After the fall a growth existed on the back of the head which at first was the size of a pea, but gradually increased until it became the size of an English walnut. About January 1 the vision began to be impaired; this defect increased until the patient could distinguish only between shadow and light. Close examination revealed the fact that the early trouble with the sight was a gradual loss of the vision on the left side of the nose; left hemianopsia preceded the total loss of vision.

Physical examination showed that the patient's mental condition was apathetic, but otherwise normal; well-marked choked discs which were passing into an atrophic state; total blindness; pupils equal in size; no light reaction; fading choked disc. In the left occipital region about an inch above and an inch to the left there was an elastic tumor which was about the size of an English walnut. It protruded through the calvarium, the opening being somewhat larger than a silver dime. The margins were sharp and elevated. The tumor had a semisolid elastic consistency, and could be pushed back into the cranial cavity, almost completely. This, however, increased the headache and vertigo, and caused nausea. There were no other physical signs whatever.

A semilunar flap was made directly over the tumor. This exposed at once a pulsating mass protruding through an opening in the calvarium, and pushing before it the dura mater, which formed a sort of sac. An incision was made through the dura mater, which was followed by the escape of a large quantity of fluid. It was removed, and although the tumor itself was not so large—size of a German walnut—an opening or cavity was present in the occipital lobe, almost oval in shape, about three inches long and two inches wide. The limiting membrane was very soft and jelly-like. The cavity seemed to be very clean; the shreds of pia mater were snipped away and the cavity was tamponed with bichlorid gauze. The dura was not closed. On the third day removal of the dressing was followed by a discharge of turbid fluid.

The patient had an uneventful recovery; his vision improved and he returned home two weeks after the operation.

The diagnosis was glioma of the occipital lobe. Some time after the operation the patient presented the following condition: At the site of the cranial opening there was a soft bulging mass about three inches in diameter; there was no return of tumor; he could read the headlines of newspapers, and could tell the time from a watch; he saw everything perfectly; did not read fine print; his discs were very white.

This patient has disappeared from view, but was alive and at work as a coal miner, and able to see well three or four years after the operation.

Case 3.—A. G., aged 22, a machinist, was admitted to Cincinnati Hospital May 15, 1894, because of cystic dilatation of the diploic vein, and Jacksonian epilepsy. His pathologic history was negative. The previous history showed that he began to have convulsions at the age of 7, but after a while these disappeared, but reappeared when he was 14, and since then he has been having them every month. The convulsions were always preceded by a sensation of numbness, and formication of the left leg. Convulsions began in the left leg, then left arm and became general. He did not suffer from headache, vomiting or vertigo.

The physical examination was negative. The epileptic seizures were followed by maniacal attacks, during which the patient became very violent, showing a tendency to attack other patients in the ward. He was blindly destructive and had to be retained with shackles; the attack is typically mania and never lasts longer than twenty-four hours. He did not remember what occurred during the maniacal condition, and immediately after an attack he was dull and apathetic. The pupils were equal in size; responded to light and accommodation, and the external muscles of the eyes were normal. There was no disturbance of sensation of scalp or face; no evidence of injury or depression of skull; region supplied by seventh nerve was normal; the pharyngeal and palate reflexes normal. There was no loss of muscular power or sensation in either arm or leg; slight exaggeration of reflexes in left leg; no ankle clonus; no muscular weakness whatever of the left leg. The diagnosis was Jacksonian epilepsy.

June 21 to July 11 he worked around the ward and felt perfectly well. On May 15 he complained of pain in the left leg and arm Bromid, 30 grains, was ordered every four hours. About 10 o'clock he complained severely of pain in the left leg, which was bandaged; following this was a delirium in which the patient cried and laughed; this lasted an hour and then he became quiet. During that time he was given chloral, 20 grains, and bromid 30 grains; he went to sleep at once and slept until morning. On June 26 he had two slight hysterical attacks, but was better next day, and was discharged at his own request. He had bromids and chloral since May 12, and had no epileptic attack since his admission.

July 30, 1894, the patient was re-admitted to the hospital. He admits having had gonorrhea but denies syphilis. Because of advisability of performing an operation his relatives were summoned and they gave a somewhat different history from the patient. The latter states that he has had attacks since the age of 7; his sister says that the attacks began in the twelfth year, three months after being struck on the back of the head with a brick. She states that he was brought into the city hospital unconscious, and was discharged in about a week. No record can be found. The examination of his head over the occiput reveals no scalp wound or depression of skull. The sister agrees with the patient as to the characteristic feature of the attack, that is, that it always begins in the left leg and extends to the left arm and face and then becomes general. She also says that he has attacks during which twenty-five to thirty convulsions occur in as many hours the patient often being unconscious during the entire period. During the last few days of August the patient complained of pain in the head. One night he had three convulsions, each lasting some minutes, and all characterized by muscular contractions beginning upon the left side. In the first one the *left leg was flexed first. He slept soundly between the seizures.* A fourth attack followed, the next morning. This was witnessed by the day nurses, and they say it was of the same general character as those described by the night nurse. Later the patient suddenly got out of bed and was caught in the act of jumping out of the window. He complained of great cephalalgia, was restless, tossing about the bed and much excited. I ordered acetanilid, 10 grains, at 9 a. m., and 5 grains thereafter, every three hours. After observing the patient for seven days, during which he had four seizures, all typically Jacksonian, followed by a slight transient weakness of the left leg, it was determined to make an exploratory operation. He was removed to the amphitheater August 31, anesthetized, and an oval incision made over the right parietal region, the bone having first been scored in order to mark the position of the Rolandic fissure; after the flap had been turned back, the trephine was then called into use and a button of bone removed over the region of the motor area for the left foot—before using the trephine there was noted a bluish line in or on the bone, running downward and forward almost parallel to about one-half inch behind the Rolandic fissure—the trephine opening was then enlarged downward and forward, and in the process there was opened a sort of venus sinus between the two layers of bone, and corresponding in situation to the blue line mentioned. The venus sinus had eroded the inner table of the skull, forming a cystic protuberance about the size of a bean. This caused a perforation of the dura mater—the dura for an area of two inches in diameter about this perforation was very much thickened and inflamed. On removing the body flap there protruded through the dura a sort of hernia of the pia and brain tissue. The dura was slit up in a crucial manner and both the dura and pia found much thickened and edematous; beyond this nothing was found, the cortex appearing normal. To arrest the hemorrhage from the venous sinus it was found necessary to introduce a sterilized match as a pug; this was left in the wound. Hemorrhage from other points was then arrested, the dura stitched together with interrupted gut-suture, the flaps of skin brought together with a continuous silk suture, and a plain gauze dressing applied.

On September 6 the stitches were removed. An examination of the special senses was negative. [illegible] first two days after the operation the patient was r[illegible] [illegible] and exacting, afterward was more liberal in [illegible] much more rational.

September 19. There were no [illegible] pronounced himself well.

September 26. He complained of [illegible] in the region of the knee-joint, w[illegible] plain; examination was negative. I[illegible] sations like [illegible] which used to p[illegible] He was or[illegible] d and 30 gra[illegible] were given [illegible]

October 8. [illegible] around at all.

October 17. [illegible] gen[illegible]

November 3. [illegible]

In December he returned for his epilepsy, saying that he had been free of attacks since the operation except two or three very light ones, neither of which were like his previous ones, and which he had been able to fight off. This morning, however, he had an attack exactly similar in every detail to those previous to the operation. He was given 15 grains potassium bromid. From this time until January there were no symptoms, no attacks and his condition was good. On August 25 he was discharged. On September 5 he returned to the hospital, saying that he had had an epileptic attack. He died at the County Infirmary about eighteen months after operation, during an epileptic attack.

In this case the recurrence of the epilepsy and the death of the individual were caused by the meningitis, which was set up by, and continued after, removal of the cyst.

CASE 4.—R. G., aged 10, colored, was admitted to Cincinnati Hospital May 20, 1895. The family and personal history were negative. There had been a gradual development of weakness and stiffness of the left arm and leg. This had lately increased to such an extent as to interfere with the use of the left arm altogether. The left leg was stiff and rigid and was dragged during walking; he had no pains in the extremity.

Examination gave the following: Mental condition was dull and apathetic; there was a tendency to somnolence. When aroused the mind was clear. Pupils were equal in size and reacted to light. Papilla was swollen and injected; there was choked disc. The external muscles of the eyes were normal in function. There was no defect in sensation of face or scalp; the left side of face—lower half—was paretic; the tongue protruded to the left. The left arm was rigid and spastic; the radial and triceps reflexes were increased; the muscular strength was reduced almost to a minimum; the size, the surface temperature and the sensation of arm were normal. The leg was normal in size and temperature; the muscles rigid and hard; the limb in condition of spasticity; the reflexes increased. There was ankle-clonus; muscular power was almost entirely lost; he was scarcely able to walk; dragged the leg, but the sensation normal. The diagnosis was spastic hemiplegia, subcortical brain tumor.

Dr. Ransohoff, after careful examination, decided to perform an exploratory operation. The diagnosis of subcortical tumor of the arm center of right side was made; the skull over this region was trephined, and a piece of bone about two inches in diameter was removed; the bulging of the brain and membranes was very marked, but on opening the dura the cortex of the brain was found intact. An incision was made through the cortex about an inch in length, but, as proved later, this was not made deeply enough. No tumor being found the wound was closed. Death occurred six hours later from shock. The autopsy showed a soft yellowish mass, fully the size of a hen's egg occupying the region of the nucleus lentiformis of the right side—it extended outward to within one-half inch of the cortex—extending upward into the region of the ascending frontal and parietal lobes, viz., the centrum semiovale; inward and downward it extended to the internal capsule. The microscopic examination showed the growth to be a tubercle.

The justification of the operation in this case lay in the fact that if the tumor could have been reached it might have been scooped out, and life could not only have been prolonged but have been made more endurable. That it could have been reached was shown by the autopsy. The growth was situated exactly under the trephine opening, and if the incision which was made in the cor[illegible]x had been a quarter of an inch deeper the tumor [illegible]ld have been found during life.

5.—F. B., aged 46, was hit by a flying brick on the left [illegible]is head. After being struck he boarded the electric [illegible]e to the foot of the steps leading to the Marine [illegible]e ascending these steps he fell down and was [illegible] hospital. Examination revealed nothing but [illegible]ver the temporal muscles, which was attend[illegible] surgeon.

He recognized his son one hour later, then became unconscious; he knew nothing of having been taken home, except that he inquired after his son, when put in wagon. After three days he recognized his son again. Two weeks later he recognized Dr. B., the attending physician. The first three days he did not say anything, then gradually regained his power of speech.

Examination showed his mental condition was good; memory good, but that he had lost knowledge of the names of objects; spoke in broken sentences because he could not remember words—knew what the object was but could not name it. This was more marked in his mother-tongue than in English, the knowledge of which is rather imperfect. He became excited under examination.

The eyes, face, tongue, extremities, pulse and temperature were normal. The head showed a depressed fracture under the temporal bone, circular in character, about the size of a dime—left side.

The treatment was iodid of potassium and protoiodid of mercury. An examination August 1, 1896, five months after the accident, showed that the patient had been growing worse gradually. He showed a great deal of absent-mindedness, and mental confusion. He loses himself; the speech defect has grown much worse; he is unable to repeat a word of two syllables. His mental condition is dull, sluggish and apathetic, almost stuperose. Speech is very much embarrassed. On August 3, 1896, he was operated on by Dr. E. W. Walker. The trephine was applied directly over the area of depression. The inner tables showed a cone-shaped depression of bone with the apex piercing both dura mater and pia mater and entering the cortex of the first temporosphenoidal convolution, cyst had formed about the apex of the depression and had attained the size of a small English walnut. There was no fever; the recovery was uneventful. Mental confusion, apathy, and dulness disappeared. Aphasia remained as it was. In May his condition was much better than immediately before the operation. In October, 1896, the aphasia was about the same; he could not repeat a long sentence. The right pupil was larger than the left; both responded to light. His mental condition was good.

May, 1900, the patient still had some sensory aphasia, but he spoke connectedly; carried on an ordinary conversation without much difficulty: had some trouble in remembering names, especially if the object was changed rapidly and an effort was made to hurry him.

There are two interesting features of his case: 1, the overlooking of the fracture of the skull by the first physician; 2, the apparent recovery, followed by symptoms of intracranial pressure. The first was due to the fact that the fracture was under the temporal muscle, which was not cut, the scalp wound extending down to the muscle-sheath; the muscles were probably contused and swollen, and it was very easy to overlook so small a fracture. The second feature, the rapid increase of all the signs and symptoms of intracranial pressure, during the fifth month, indicating brain tumor, except that there was no optic neuritis, was evidently due to the rapid increase in the size of the cyst—Bergmann calls attention to this feature of traumatic cysts.

Case 6.—J. M., a German plasterer, was admitted to Cincinnati Hospital May 30, 1898. He complained of convulsions of the left arm and leg, followed by anesthesia of affected areas, lasting about half an hour. His family history was negative. As a child he had measles, mumps, and scarlet fever. No venereal history was obtained; he chewed tobacco, and drank beer to excess till one year before his admission to the hospital. There was no drug habit.

About seven years before, while ascending a ladder, his left leg suddenly became helpless, causing him to make a mis-step, and he fell a distance of fifteen feet, but as he fell on a sofa he sustained no injury at the time. He did not lose consciousness, but immediately felt numb in the entire left half of the body; this feeling lasted about twenty minutes. After the numbness passed away he went to work feeling no ill effects. About one month later he was seized in the same manner and the attack lasted about the same length of time.

The attacks gradually increased in frequency till the fall of 1897, when he would sometimes have two attacks in one day.

Up to this time the patient was as strong as he ever had been; but had ceased to work at his trade two years previously for fear of falling and injuring himself. Attacks had become less frequent, so that none had occurred since February, except on April 19, on which day an attack occurred, preceded by bilateral clonic spasms lasting two or three minutes, followed by the usual left-sided numbness and weakness. All attacks previous to this one were preceded by unilateral clonic spasms of the left side lasting about two or three minutes. For the last six years the symptoms and attacks have occurred in about the following order:

1, full side headache lasting about twenty minutes; 2, vomiting, the vomitus consisting principally of bile; 3, dull aching pain over the right eye, lasting from five to twenty minutes; 4, tonic spasms of left arm and left leg; 5, numbness and weakness, lasting about thirty minutes.

Examination showed that his body was fairly well developed and nourished. He had a dull, rather languid expression of the face. His cerebration was somewhat slow, and he had a slight difficulty in talking.

Cranial Nerves.—First, normal; second, he could discern persons across the street, but could not recognize them; he could not read the newspaper at any distance; there was no aphasia. Optic neuritis was present; pupils reacted to light and accommodation; third, fourth and sixth were apparently normal; fifth, motor and sensory, normal; seventh, weakness of muscles of left side of face; ninth, tongue deviates to the left side; tenth, some difficulty in breathing in morning. Troubled considerably with hiccoughing; eleventh, on turning head to left, severe pain in right occipital lobe, similar pain in left lobe on turning head to right; twelfth, normal. There was some difficulty in swallowing. Motility, muscular power and grasp apparently normal and equal. Flexion, extension and power of right leg normal. Right leg was also affected at times, but only temporarily; often had passing weakness, rigidity and ankle-clonus. Unable to lift left leg from bed when extended, and when it was elevated can not flex nor extend it; resists bending somewhat, but no pain on bending. Left arm becomes exhausted easily; some inco-ordination; slightly weaker than right.

Gait.—Dragged left leg and foot; left arm hung almost motionless at side, although he had use of it; head inclined to the left side.

Sensation.—Pain, tactile, heat and cold, normal.

Reflexes.—Right and left knee exaggerated; right and left ankle-clonus marked; right and left wrist-jerk marked; right and left elbow-jerk marked.

Bladder.—He had frequent sensations of wanting to urinate, but had considerable difficulty in starting the stream. He sometimes voided urine before reaching the closet. Expelling force of bladder was much diminished. The rectum, lungs, heart, and urine were abnormal.

Exploratory trephining was done by Dr. Ransohoff over motor area of right side, but nothing found except much cerebral bulging. The patient died the same day from shock. The autopsy showed an oval opening about five inches by two and one-half inches in the parietal region of the right side, its lower margin about one and one-half inches above the external auditory meatus and the upper margin about one inch from sagittal suture. Just anterior to sagittal suture, about one inch in front and toward the median line from the opening in the calvarium, was an extensive thickening of the bone tissue circular in shape. At its central point, where it was thickest, the growth was about three-fourths of an inch thick. This thickening was due to the periosteal deposits, as the outlines of the calvarium could be plainly discerned directly under this thickening; dura mater was adherent to the brain.

The longitudinal sinus was obliterated by a soft semi-fluid, cream color growth. Under the dura mater was a growth about the size of a goose egg, which began on the surface about two inches from the tip of the first frontal convolution and extended backward along the longitudinal fissure to about two inches posterior to the fissure of Rolando.

The cortical size of this growth was about three and one-half by two and one-half inches, and occupied the posterior

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September 19. There were no symptoms whatever, he pronounced himself well.

September 26. He complained of pain in the left leg, chiefly in the region of the knee-joint, which he was unable to explain; examination was negative. Patient said he had no sensations like those which used to precede an epileptic attack. He was ordered to bed and 30 grains of potassium bromid were given him.

October 8. He was up and around the ward; no symptoms at all.

October 17. No attacks at all; general condition good.

November 3. Discharged, well.

In December he returned for his epilepsy, saying that he had been free of attacks since the operation except two or three very light ones, neither of which were like his previous ones, and which he had been able to fight off. This morning, however, he had an attack exactly similar in every detail to those previous to the operation. He was given 15 grains potassium bromid. From this time until January there were no symptoms, no attacks and his condition was good. On August 25 he was discharged. On September 5 he returned to the hospital, saying that he had had an epileptic attack. He died at the County Infirmary about eighteen months after operation, during an epileptic attack.

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He recognized his son one hour later, then became unconscious; he knew nothing of having been taken home, except that he inquired after his son, when put in wagon. After three days he recognized his son again. Two weeks later he recognized Dr. B., the attending physician. The first three days he did not say anything, then gradually regained his power of speech.

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The longitudinal sinus was obliterated by a soft semi-fluid, cream color growth. Under the dura mater was a growth about the size of a goose egg, which began on the surface about two inches from the tip of the first frontal convolution and extended backward along the longitudinal fissure to about two inches posterior to the fissure of Rolando.

The cortical size of this growth was about three and one-half by two and one-half inches, and occupied the posterior half of the first and second frontal convolutions and the upper half of the ascending frontal and ascending parietal convolution around the fissure of Rolando and backward into the gyrus angularis. It bulged into the longitudinal fissure and pressed on the median surface of the psychomotor area of the left side.

Subcortically, it extended into the corona radiata, pressed on and destroyed the posterior portion of the lenticular nucleus and the fibers of the internal capsule. The cortex above the tumor was entirely obliterated, whereas the cortex of the lower portion of the psychomotor area and the portion of the corona radiata beneath it was intact.

The tumor was soft and fluctuating On section it was semisolid, very soft, creamy in color and rather vascular. After being hardened it proved to be non-infiltrating, and could be shelled out with ease. Microscopic examination proved the tumor to be a gliosarcoma.

The interesting features of this case are: The long duration of the tumor's growth—seven years elapsing between the onset of the first symptoms and the death of the individual. Death was due to shock of the operation, and life might have been prolonged for some time. This feature alone is interesting in a therapeutic sense, because the hardened brain specimen shows that the tumor could have been shelled out if the calvarium had been opened just over it; the difficulty lay in the proximity of the growths to the longitudinal fissure. It proves once more that growths of long duration are more apt to compress the brain matter than to infiltrate the brain substance, and that, therefore the operative success is more promising than in those of more rapid growth. The second peculiarity is the presence of bilateral symptoms, viz., the frequent variation of the involvement of the right side of the face—a condition which can probably be explained only on the basis of varying pressure of the tumor on the corona radiata of the left side of the cerebrum and then the change—the involvement of the right leg and foot—the presence of spastic paresis and ankle-clonus at one examination and their absence at the next. These variations of symptoms were easily explained at the autopsy, but during life were a source of continual doubt as to whether the tumor was cortical or basal. The presence of the tumor mainly in the lobus paracentralis of the right psychomotor area, pressing upon the lobus paracentralis of the left psychomotor area, explains the bilateral spastic symptoms; and the variability of the symptoms were, in all probability, due to the increase and diminution of the vascularity of the growth. It is a little strange that the growth, by irritation, never produced an attack of localized epilepsy in the right foot.

Case 7.—C. R., was admitted to Cincinnati Hospital July 12, 1899, in a state of coma. A friend stated that he was subject to epileptic fits, and during an attack fell backward down six steps and struck on the back of his head. He could be aroused, and answered questions, volunteered no statement, resisted attempts at examination; vomited greenish fluid; had use of all his limbs; tried to walk, but had to be supported; complained of back of neck hurting him.

Examination.—His head showed no evidence of injury. The pupils were dilated, left more than right; no reaction to light. The conjunctiva was injected; the tongue was coated and furrowed longitudinally, and protruded in the median line. He resisted all attempts at movement of his extremities, but could move them at will.

Reflexes were all increased on the left; right negative. Muscular power was decreased, much more on the left. Sensation was normal. The urine was small in amount, pea-green in color, and contained a small amount of albumin.

July 13.—Coma deeper, respiration stertorous; could still be aroused. Left side, both arm and leg were in a state of spastic rigidity. No voluntary movements in arm or leg of this side; right arm and leg were normal. Pupils were moderately contracted, and did not react to light. Urine was passed involuntarily. At 6 p. m. he could not be aroused. His mouth was drawn to the left. Reflexes were lost on the left side; no voluntary movement of this side. Arm and leg were rigid. Reflexes on the right side were greatly exaggerated. He was very restless, constantly moving right arm and leg. There was Cheyne-Stokes respiration; mucous râles could be heard all over the chest. His temperature was 103 degrees, and his pulse rapid and irregular. Operation was performed at 11:30 a. m.; the fissure of Rolando right side was marked off and trephine opening made over lower extremity. There was no fracture; no extradural hemorrhage, and very slight pulsation of the brain. The brain opening was enlarged and an incision made in the dura, followed by a gush of partially clotted dark blood. Brain tissue immediately protruded into the wound, was dark and congested and at lower angle of wound showed areas of softening about one by three-fourths of an inch. Blood welled up from the opening for a time, containing brain tissue. The wound was gently cleansed with warm water, and dura partially closed with catgut, the opening being left over soft area, small rubber drainage-tube placed in cavity, and drain of silkworm gut externally and scalp sutured, leaving good-sized opening for drainage at lower angle of wound.

When dura was opened the clot removed, and the anesthetic discontinued, spastic condition of the left side disappeared and voluntary movement was possible and rather freely performed. This soon disappeared and patient relapsed into former condition. After removal to the ward condition gradually became worse and patient died without regaining consciousness at 2 p. m., July 15, 1900.

The post-mortem showed no evidence of external violence. There was extensive hyperemia of both hemispheres. Punctate hemorrhages were seen over—ten or twenty in number—the surface of both hemispheres from the size of a pin head to that of a split pea. On the tip of the frontal convolution of both sides there was an infiltration of blood on the surface the size of a dime; on section these bloody surfaces were found to cover a cyst about as large as a hazelnut; there was clotted blood in the middle fossa. Over temporosphenoidal and running anterior to knee of fissure of Sylvius was a large blood clot. The cortex below was extensively destroyed with opening leading into large cavity the size of a hen's egg. This cavity extends down to and involves the internal capsule. In parts of the wall the cyst shows black spots, size of pin head; other parts red; posterior portion of cavity, the cortex is destroyed and replaced by a soft and granular mass. This infiltration extends for considerable area around cortical margin of cyst, replacing normal cortex. Major portion of cortex surrounding cavity is softened, probably acute softening from hemorrhage destruction. Five other cysts were found on surface of both hemispheres; one on tip of each frontal lobe. The others were over the parietal lobes and the temporosphenoidal. These varied in size from a bean to a hazel nut. They are covered with pia mater. On opening them the cavity is conical in shape and the apex is formed by a small round hard mass, laminated and dark brown in color; the cortex is destroyed and the contents yellowish-red in character.

In various regions the pia is adherent, and a granular mass extends from its under surface into the cortex, being continuous, and apparently infiltrating the latter. The basilar ganglia, interpeduncular space, medulla, cord and bridge, show no gross anatomical changes.

Close inquiry among the friends elicited the information that the patient had had about six epileptic seizures in the past year, and had been perfectly well before. He had always been at work, and was taken with his last epileptic seizure during a night of dissipation in a house of ill-fame. No other history could be elicited. No history of syphilis, and with the exception of the epileptic seizures, he enjoyed the best of health and did not consider himself sick.

Before the operation, having no previous history of the case, it was thought that the fall produced a subdural hematoma, and the finding of the numerous hemorrhagic cysts was quite unexpected. The epilepsy undoubtedly was caused by the presence of these cysts, and the fatal hemorrhage was undoubtedly the result of a rupture of one of these cysts, superinduced by the fall on the back of the head.

When we look over the tables of published operative cases which have been collected from the world over, we are struck with the small number of cases. The brain is a favorite seat of tumors and we all know how frequently they occur.

Bergmann, basing his opinion on an analysis of Hale White's 100 cases of brain tumors, found in the autopsy room of Guy's Hospital, Seydel's 50 cases, Allen Starr's 600 cases, compiled from all sources, and Oppenheim's 23 cases, all carefully observed *intra vitam* and after death, comes to the conclusion that at most but from 6 to 7 per cent. of all brain tumors can form the subject for surgical interference, and that to all intents and purposes brain surgery, with rare exceptions, resolves itself into the surgery of the psychomotor areas. We should not be discouraged, however, by the result of this analysis, but should be spurred on to greater exertions, to greater efforts in singling out the favorable cases. I can do no better than quote Bergmann again: "Among the tumors which grow in the cortex and can, therefore, be reached by the knife, those are most frequently present which promise favorable results from an operation, viz., tough fibromata and sarcomata, which are well encapsulated, have their seat of predilection in the gray matter of the cortex, and when once removed do not seem to recur. Even the most benign brain tumor is a fatal disease, for it grows without a halt, and it is this very growing which threatens to destroy the mental as well as the physical life of the patent. There is but one way to put a stop to this growth, the timely removal of this dangerous, although histologically benign tumor." Considering the necessarily fatal result of this trouble, results of the surgical interference are not bad. Its future lies in the hands of the neurologist and not the surgeon. For the most important point in brain surgery is the accuracy of the diagnosis and localization. This is illustrated by the comparison of the statistics collected by Von Hippel and published in Bergmann's latest work on brain surgery. Von Hippel collected all the published operations on the brain and these can be divided into two groups: 1. Those cases in which the brain tumor or cyst was accurately located and removed; 2, those in which the localization was defective and the so-called exploratory operation was made. The first group comprises 116 cases; in all of them the tumors were removed and 60 per cent. of the cases were decidedly improved or cured, and only 7 per cent of the cases were not benefited at all or died as a result of the operation.

No.	Name, Sex, Age.	Operator.	First Symptom.	Local Symptoms.	General Symptoms.	Optic Disc.	Operation.	Seat of Tumor.	Result.
1	Mr. L.; 32	Ransohoff; Hoppe.	Jackson epilepsy.	Jackson epilepsy of l. arm and leg.	Generalized convulsions, headache, vertigo	*Negative.*	*Trephining*	*Right foot and arm center*	Hemiplegia; epilepsy; still alive: seven years.
2	T. B.; male: 18	R. Sattler; Hoppe.	Hemianopsia	Total blindness.	Headache, vertigo, nausea	Pale.	Trephining	Left occipital lobe	Recovery of sight; still alive; seven years.
3	A. G.; male; 22	John Oliver; Hoppe.	Jackson epilepsy	Epilepsy; *epileptic insanity.*	*None*	*Negative.*	Trephin*ing*	Cyst over right leg center	Improvement for 6 mos.; died after one year.
4	R. G.; male; 10	Ransohoff; Hoppe.	Spastic par'sis of left arm.	Spastic hemiplegia	Headache, apathy	Choked disc.	Trephining	Subcortical motor area. Right side	Died in four hours; shock.
5	F. B.; male; 46	E. W. Walker; Hoppe.	Sensory aphasia	Sensory aphasia.	Headache, mental confusion	Negative.	Trephining	Cyst of 1st temp. *sphen.* lobe. Left side.	Much improved for sensory aphasia; still alive.
6	J. M.; male: 32	Ransohoff; Hoppe.	Numbness; weakness of left leg	Jackson epilepsy; hemiplegia; diplegia.	Headache, vertigo, apathy	Choked *disc.*	Trephining	Right foot center.	Died from shock in four hours.
7	C. R.; male; 23	Ransohoff; Hoppe.	General epilepsy	Spastic hemiplegia	Coma, convulsions	Negative.	Trephining	Multiple cysts	Died from cerebral hemorrhage.

The condition, however, is entirely different in the so-called exploratory operations or in those cases in which, although the tumor was found, it was too large for removal. There were 157 of these cases and the operations were either useless or worse, for 47.7 per cent. died as the direct result of the operation. If all the unsuccessful cases were reported, I am quite sure that the number of cases in Class 2 would be increased by several hundred, and the mortality percentage of the operation would be still greater. There is but one lesson to be learned from these statistics, and it is, if you can not localize your tumor do not operate. There is only one possible condition which can suspend the operation of this rule and that is palliative trephining for the relief of unbearable intracranial pressure, when we fail to obtain relief by the Quincke puncture.

The main obstacle which lies in our path of success is the difficulty of diagnosis and accurately locating the tumors and cysts. These difficulties are nowhere set forth in a clearer light than in Prof. H. Oppenheim's address delivered before the joint session of Neurology and Surgery at the International Congress held in Moscow in 1897. Speaking of brain surgery he says: "The whole subject is still in the developmental stage, a subject of future solution and in only a few places can we make a sharp distinction between that which is true, solid and enduring, and the counterfeit and evanescent. We have become calm and sober because we realize that we stand on uncertain ground and that of the fruits for which we strive scarcely a single one has ripened. The rocks on which the hopes of surgery of the brain have been shattered in the past have not been a defective technique nor the inherent danger of attacking the brain, but the uncertainty of diagnosis." What was true in 1897 still holds to-day. Although the advances made have been great, we are still far from standing on solid ground in brain localization. This is partly due to the inherent difficulty of the subject and partly due to a sufficient lack of pathologic data. This difficulty of accurate localization even when the lesion clearly points to the psychomotor area is clearly illustrated by two of the above cases, viz, 6 and 4. In Case 6, on account of the variation of the signs and development of bilateral involvement, it was, for a long time. almost impossible to locate the tumor. It was first thought that the tumor was at the base of the brain. The marked character of the epileptic seizure led us to open the calvarium over the left leg center, near the arm center. No tumor was found; the autopsy, however, cleared up the diagnosis and explained the difficulty. The tumor was in the right lobus paracentralis; the involvement of the right leg was due to the pressure of the tumor on the lobus paracentralis of the left side, the fluctuation in the involvement of the face and tongue was caused by the extension of the tumor into the centrum semiovale and the pressure —distant—upon the internal capsule.

If it had been possible to locate the tumor accurately, the operation would probably have been successful, for the hardened brain showed that the tumor could have been enucleated. Case 4 offers a similar difficulty of accurately locating tumors of the psychomotor areas. The diagnosis of subcortical tumor of the arm center was made, but it was impossible to say how near the tumor was to the cortex or how near it was to the internal capsule. But viewed in the light shed upon the subject by the autopsy we can say that the preponderance of the spastic signs over the paretic and the entire absence of Jacksonian epilepsy should have shown us that the tumor was near the internal capsule, and should have been subject to an operation.

For more detailed accounts of the difficulties of diagnosis and localization, and distinguishing tumors [illegible] frontal lobe from those of the cerebellum, of the parieteal and occipital lobes, I would refer the reader to recent publications of Fritch and Hitzig, Knapp, Hermanides, Oppenheim, Bruns, etc.

The following are the conclusions which most authorities have come to, as a result of the observation of their own cases and the study of the literature on the subject:

1. Tumors of the cortex or subcortical region of any portion of the cerebral hemispheres which can be reached through the calvarium are operable.

2. If possible the operation should be performed early, when the tumor is small; but even large tumors and those infiltrating in character, have been operated on with success.

3. A study of the successful cases shows that, with few exceptions, brain surgery is limited to the psychomotor areas (Von Bergmann).

4. The result of surgical interference even in the most successful cases, rarely leads to complete recovery. The general symptoms due to intracranial pressure disappear, but the focal symptoms, viz, the epileptic seizures and paralysis, either remain permanently or are only diminished. It must not be forgotten, however, that the life of the individual has been saved.

5. Cerebellar tumors are inoperable. This is the law laid down by Oppenheim and concurred in by Bergmann. Those of the posterior and upper surface of the cerebellum, near the lower margin of the occipital lobe have been removed, but the operation has been invariably fatal (Oppenheim). The danger is due to the crowding of large sinuses into a small field of operation and the pressure upon, and displacement of, the medulla. Occasionally a cyst has been luckily tapped, but we can never localize with certainty, and we all know how disastrous exploratory operations are in this region.

6. The cumulative experience of all writers is against the exploratory operation.

7. Shall we advise palliative operations? On this subject authority is divided. Horsley, Bramwell, Annandale, Sanger, Sahli, Sinking, Keen, Bruns, and perhaps Oppenheim are in favor of palliative operations for the relief of violent symptoms of increased intracranial pressure in rare cases. Von Bergmann and Von Braman are against it. My limited experience in cases in which I refused to advise an operation and the operation was, nevertheless, performed, has been with those who oppose the operation.

8. I do not agree with Oppenheim that gummata should not be operated on. I have in my possession the brain of a man who refused to be operated upon which shows that the gumma could have been removed successfully. This gumma was located accurately and diagnosed as such in the arm center during life. In my opinion, tubercles, if isolated and located so as to be operable, should be operated upon, other things being favorable. Metastatic carcinomata are inoperable.

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DISCUSSION.

Dr. Daniel R. Brower, Chicago—Dr. Hoppe's paper quite harmonizes with the Chairman's admirable address, and emphasizes the fact that we do cure some patients. This question of brain tumor is one of exceeding interest, but I am free to confess than in my experience I have not had as favorable results as Dr. Hoppe reports. While I have in some cases seen temporary benefits follow operation, and while I am sure I shall continue to recommend operations, I have yet to see in my own clientage a recovery. The differentiation of a cortical from a subcortical is usually impossible. A short time ago a case presenting all the classical symptoms of tumor in the motor area, was referred to Prof. N. Senn for operation; he failed to find the tumor, but post-mortem examination found it, a gumma, as was supposed, just beneath the cortex.

Dr. Charles H. Hughes, St. Louis, Mo.—I think the position taken by the essayist is eminently correct. The subject of cerebral tumors, especially the tumors involving the optic area of the brain, is particularly interesting. I would like to see more records of the ophthalmological evidences in these cases for diagnostic purposes. I saw a case before the New York Neurological Society, on my return from Europe last year. in which the diagnosis hinged on the neuroretinitis. or choked disk, and I believe I have never seen such a case of tumor which did not reveal the retinal symptoms. This, of course. is merely my own personal experience. The first case of brain tumor that I ever operated on was a great many years ago. and I found the tumor in the area that showed negatively how valuable the recent discoveries were in regard to the psychomotor areas of the brain. The next operation was performed before the subject of aphasia was so thoroughly understood. and was the case of a patient who became an automaton; he lost the capacity of speech, and it was only necessary to give him a start and he would walk from one end of the corridor to the other. After the operation the patient began to speak, and became annoyingly loquacious.

Dr. William G. Spiller, Philadelphia—Dr. Hughes' remarks on the presence of optic neuritis in brain tumor lead me to speak of two cases I have recently observed. One was a case reported by Dr. C. K. Mills; I saw the patient with Dr. Mills a number of times, and in that case there was no optic neuritis. The tumor was removed, and the patient improved very much after the operation. In a case that has been under my care recently, optic neuritis played a very important rôle in diagnosis. The patient was sent to me with symptoms of disease of the spinal cord, in the upper cervical region; she had stiffness of the neck, so that the head could be only slightly moved in any direction, and had other symptoms of tumor in the cervical region. I sent her to Dr. Hansell for an examination of her eyes, and he found that she had a high-grade neuritis in each eye. That was the only cerebral symptom she had, except loss of smell. The optic neuritis in this case led me to believe that probably the tumor was not confined to the vertebral canal. I found at the necropsy a tumor in the upper part of the cervical region, which had gradually grown downward and pressed on the cervical cord, and had extended to the third or fourth cervical segment. but had not involved the cord except by compression. The tumor extended upward along the base of the brain and covered the medulla oblongata and pons.

Dr. A. E. Sterne, Indianapolis—I have recently had rather a considerable number of operations, for, as you know, they frequently come together. In the first two weeks of March I had five operations on the brain. Some time in February of this year I lost a case through what I thought to be neglect on the part of the attendants at one of our hospitals in Indianapolis, a case which I had every reason to believe would recover. Dr. Hoppe's mention of the word "shock" recalls the case to me, as I have lost no case since I have made it an invariable rule to count shock as a part of the operation. I expect shock to follow; I do not wait until it comes. If there has been any degree of loss of blood, as there usually is in these cases, I feel almost sure that I am going to have shock, and I feel sure that we will have a rise of temperature up to 105; that is the rule, although it has frequently been supposed to be a fatal symptom. Before the patient comes from under the effect of the narcotic I have invariably given a saline infusion, and sometimes in addition to that a large enema, adding hypodermics of strychnia, in one case as high as 1/40 grain every ten minutes, keeping this up for the first twenty-six hours, and giving smaller doses thereafter. In that case the patient recovered, although, of course, it seemed a huge amount of strychnia to use. In all the subsequent cases I have had no ill results, and the last seven cases have all recovered. Of course, so far as concerns the final results of those cases, the time is as yet too short to decide; two were for tumors, two for cysts, and three were for conditions of idiocy. In the last three cases the idiocy was combined with spastic symptoms of a motor nature, and almost the entire top of the skull was removed, making a trephine opening on one side and a trephine opening on the other, joining in a circular fashion. No evil results whatever have occurred. I warned the family that they could not expect results immediately, and possibly not for several years, and I believe that precaution should always be taken.

I find that surgeons, as a rule, who are not neurologists are afraid to go deeply into the brain. There is no reason why they should not go deeply. We operate on internal hydrocephalus; why can we not go deeply into the brain at any time, always, of course, with the certainty in mind that a few symptoms in the motor area will follow? Owing to the fact that you have cut into the motor area there is usually a slight paresis remaining. So far as choked disk is concerned, it seems to me that optic symptoms are much more apt to be present in tumor. Cysts and abscesses do not produce choked disk in my experience nearly so often as the tumors, even when the tumors are of much less extent. Probably this is due to the greater consistency of brain tumors in comparison to the other lesions, and, therefore, the intracranial pressure will be the higher.

Dr. Maximilian Herzog, Chicago—I have been interested for some time in the subject of brain tumors from the standpoint of the pathologist, and I want to make a plea for a more exact classification of brain tumors. I think that blood cysts, and other cysts not true neoplasms in their nature, should not be included when we speak of brain tumors. Even if we find certain common clinical features we are not entitled to treat conditions so fundamentally different under the same heading. The books generally contain the statement that sarcomata are the most common neoplasms of the central nervous system. I am, from my own observations, inclined to doubt this statement, and I believe that gliomata are the most common tumors of the central nervous system. Dr. Hoppe reports among his cases one operated on, and well three years after the operation, as a sarcoma. I somewhat doubt the correctness of the pathologic diagnosis; I rather believe that this tumor was a glioma. It is sometimes not at all easy to make a correct histologic diagnosis of tumors of the brain, hence formerly many were diagnosed as glio-sarcoma, a classification which has been abandoned entirely for obvious reasons.

Dr. H. H. Hoppe, in closing—The autopsy in this case showed that the tumor was much closer to the internal capsule than it was to the cortex. If the tumor is close to the cortex there is no reason why there should not be optic neuritis. As to Dr. Herzog's views with regard to sarcoma, I would say that the diagnosis was made in this case by a pathologist. On the other hand, I have quoted in my paper a statement by Bergmann about sarcoma. There was one point that was not raised, and that is the question of diagnosis and its bearing on the results. Karl von Heller has tabulated all the published brain-tumor operations, and they are given again in Bergmann's book on "Brain Surgery." There are 116 cases of successful removal of brain tumors, and in these cases each tumor was localized before the operation; in over 60 per cent. of these cases were the patients benefited, and in only 7 per cent. was the death due to the results of the operation. On the other hand, there are 259 cases of so-called explorative cases, and in these 50 per cent. died as the result of shock. The point is, that if you can not localize your tumor you should not operate. The great point in brain surgery to-day is the accuracy of localization of the tumor before operation.

THE SKULL AND ITS CONTENTS.*

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MILWAUKEE, WIS.

If the expression sometimes ascribed to Sir Astley Cooper, that "No injury of the head is too slight to be despised nor too severe to be despaired of," be true, I will need no apology for inviting attention to the subject, except perhaps for the weakness of its presentation. Injuries to the head should possess, for every practitioner, more than ordinary interest, as they entail more than ordinary responsibilities, and when we consider the many and varied conditions met with in this field of surgery, from the slight and apparently trivial scalp wound to the fracture of the base of the skull with its probable accompanying laceration of brain tissue and membranes, and possibly rupture of large blood-vessels, the range of thought necessary to comprehend and combat these conditions becomes apparent.

In the contemplation of this class of injuries we may say, in a general way, that the practitioner must ever keep in mind not alone the skull, but its coverings and contents, as well as the intimate relations existing between them, for even a slight scalp wound, if neglected, may terminate fatally, and what appears to be only a trivial blow on the head may produce fatal cerebral hemorrhage. We must, therefore, be prepared for any reasonable probability or possibility and must by the exercise of forethought and intelligently applied treatment strive to secure satisfactory *immediate* results and prevent undesirable *remote* ones. The anatomic position of the head being one of special and almost constant exposure to violence predisposes to a large number of injuries. The delicate nature of the skull contents predisposes to the gravity of these injuries, while the intimate relations existing between the coverings and contents of the skull, although apparently separated by a closed, bony wall, teach us that injury to the former predisposes to disease of the latter and should teach us how prudent it will be on our part to guard against possible unfortunate results by prompt and intelligent action. The natural openings which lead to the interior of the skull, while in their normal condition and undisturbed by traumatism, serve the purposes of their existence without imperiling the integrity of neighboring structures, but when once seriously interfered with they become dangerous channels through which infection may and often does reach the structures lying within the skull wall. Thus it will be seen that nature's necessities predispose to gravity in any injury to the head.

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Nature has, however, made many admirable provisions to counteract, as far as may be, the unfortunate though necessary conditions above described. The skull is not only covered by the pericranium and tough resisting scalp, but is also carefully lined for the better protection of its contents, the importance of which protection daily experience demonstrates. The shape of the skull, as well as the varying degrees of thickness which it presents at different points and in different individuals, must necessarily enter into all calculations as to the possible or probable injury to the parts lying immediately within its walls when subjected to violence. The elasticity and resiliency of the skull bones are factors sufficiently important in themselves to merit close study. The especially ingenious and practical arrangement of the anatomy of the skull, giving as it does the best possible protection to its contents consistent with limited weight and general utility, is another of nature's provisions for the protection of its own creation. In brief, the shape, physical characteristics, coverings and lining are so well adapted to resistance and protection that ordinary violence results in but slight injury, usually confining itself to the scalp and external soft parts and not extending to the bony wall or its contents.

The skull has, however, in common with other parts of the body, its limit of resistance, and when this has been overcome a multiplicity of pathologic conditions become possible. These conditions will demand, on the part of the surgeon, an intimate knowledge not alone of the normal appearances of the parts involved, but also of the possible or probable pathologic conditions resulting from any given injury, for on this knowledge —on the accuracy with which the surgeon can estimate the nature and degree of the effects of the traumatism —must depend in a large measure his success or failure in treatment. We know that, apparently contrary to general law, a slight blow on the head is sometimes followed by the most serious results, and vice versa, and we should also know as surgeons that there must be reasons for these strange results, and these reasons must be sought for, utilized, and made a part of the clinical history of each case. It is a well-known fact that a blow on the head may produce any one of a variety of fractures with or without injury to the brain, its coverings or circulation. The outer plate of bone may be broken without the inner being affected, and the latter may be fractured without the presence of any apparent or actual depression in the outer one. The writer met with a case, in 1895, where the postmortem revealed a fracture of the inner plate of the skull 1½ inches in length, great laceration of brain tissue with rupture of the middle meningeal artery, and yet there was not even a scalp wound nor any evidence on the outer surface of the bone to indicate in the slightest degree the character and extent of the injury within. As a rule, however, when fracture exists both plates are involved. When an injury is present it is usually found at or near the part at which the force has been received, although there are occasional exceptions. Whenever there exists an injury of sufficient severity to have lacerated the brain or its membranes, hemorrhage resulting in clot, or more rarely, inflammation resulting in exudate follows. In either case the cranial contents are increased in volume and, as the skull walls are unyielding, pressure on the brain is a natural and inevitable consequence. This pressure, limited at first, is likely to increase until the brain functions are seriously interfered with or until life itself is extinct. The altered and abnormal conditions within the cranium may result in but temporary and trivial altered nerve manifestations, or they may result in partial or complete abolition of the motor, intellectual or sensory brain functions.

It is reasonably safe to be guided by the rule that intracranial pressure, when mild and local in character, will result in but mild and local functional disturbances, but when the pressure becomes general through the extension of the clot or the exudate all functional disturbances become general or the pressure may be so pronounced as to entirely obliterate all evidences of the existence of the nervous system so far as function is concerned.

The injury to the brain substance through traumatism to the head may be very slight, resulting in nothing more serious than a number of pinhead clots which times readily absorbs, or it may be so severe as to require active surgical interference to control the dangerous hemorrhage which is often present. In the more severe forms of injury the patient's loss of consciousness seriously interferes with completeness of diagnosis, but usually sufficient information may be obtained from the history of the accident and an examination of the patient's physical condition to enable the surgeon to arrive at reasonably accurate conclusions.

Where fracture of the skull exists, especially if depression be present, the most important factor to be considered is the condition of the skull contents. The fracture itself is of secondary consideration. Any violence of sufficient force to cause fracture of the skull has in all probability caused some injury to the brain tissue or its coverings, and this injury very evidently assumes a more serious aspect if the fracture be a depressed one, for in this event a section of bone will be pressed down upon the brain coverings and even fragments of bone may be forced into the brain substance itself.

In the consideration of any line of treatment in severe cases our thoughts should center on the probability of injury to the soft parts within the skull, and our efforts must be directed along the lines best calculated to overcome the *immediate* and prevent, if possible, the usual *remote* effects of the injury. Horsley has clearly established that brain scars, scars in the dura and depressed fragments of bone, are frequent causes of epilepsy, and that the removal of these causes usually results in benefit to and often in cure of the patient. We are therefore admonished to exercise great care, at the time of injury, in our efforts to prevent this result.

In outlining a general plan of treatment we would say that no one can hope to do satisfactory work on the skull. its coverings, or contents, unless he is surgically clean. We must not forget that infection is readily carried from the scalp to the brain or its coverings and that such an occurrence can not be too profoundly regretted and, when resulting through the carelessness or the unsurgical habits of the medical attendant, can not be too emphatically condemned. The clinical reports of all careful workers in this particular field of surgery go to prove that we may enter the cavity of the skull and there deal with conditions demanding surgical attention with the same confidence and assurance with which we enter the abdominal cavity, providing we exercise the same care and possess the same cleanliness. In all operations on the skull the entire head should be shaved and thoroughly disinfected before the skull wall is opened. All foreign matter should be thoroughly removed and, where dirt, hair, etc., have become lodged in the line of fracture, where fracture exists, the chisel and hammer must be used to remove them.

The next care of the surgeon is to ascertain, if possible, the nature and extent of the injury. Where fracture with depression is found, removal of a section of bone, either with the trephine or chisel, places the field of injury open to observation and clears up questions that must otherwise remain in doubt. In all cases sufficient bone should be removed to permit of a thorough inspection of the field of operation.

We now, with the injured parts easily within reach, proceed to treat them as we treat injured structures in other parts of the body. All foreign matter and bloodclots are to be removed, hemorrhage controlled either by hot applications, pressure or ligature, and all ragged edges of the wound excised, securing, if possible, smooth coaptating surfaces. The wound in the brain should be closed with catgut sutures, after which the dura mater is carefully drawn over it and closed with the same material and the outer wound closed and dressed in the usual way. When we feel that our work has been clean throughout, drainage is unnecessary, but if we fear subsequent septic trouble drainage should be provided for; the patient should be put at physical and mental rest and his condition carefully watched for at least ten days. Should septic trouble occur the parts must be opened up and a rigid antiseptic treatment instituted. He must ever bear in mind that the scar tissue resulting in wounds that do not heal by first intention is prone to be followed by those dreaded *remote* effects which are often immeasurably worse than death, and we should, therefore, leave nothing undone which may in any way conduce to or further the prospects of an aseptic result. In cases presented to us for treatment we must not carelessly overestimate or underestimate nature's possibilities, but rather by a careful consideration of all the conditions, facts and symptoms present, intelligently weigh the evidence and draw conclusions in accordance with its drift. Time spent by the surgeon in securing facts to strengthen his judgment is usually time gained for the patient and is therefore well spent.

This paper has not been written with the view of instructing, but rather of inviting attention to a field of surgery worthy, we believe, of more consideration than is being given to it and to stimulate a closer and more thorough study of the conditions with which it deals. Placed in positions where we may be called on at any time to assume the responsibilities involved in such cases we should, in doing even ordinary justice to our patients, be prepared to treat them with a fair degree of intelligence, and they should receive at our hands that degree of surgical skill to which in this day they are fairly entitled. The records of Macewen, Starr, Horsley, Fluchrer, Weismann, and others, combined with our present knowledge of surgical cleanliness, place us in positions to do at least reasonably accurate and successful work on the skull and brain, and when we consider the importance of maintaining the security and integrity of nature's great nerve center and its peculiar liability to injury, time spent in specially fitting ourselves for work in this connection can not be regarded in any other light than that of wise expenditure.

402 Grand Avenue.

TREATMENT OF TYPHOID FEVER.

WITH BACTERICIDAL IN CONNECTION WITH OTHER AGENTS, AND SOME CONSEQUENT DEDUCTIONS.*

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It would be remarkable indeed for any physician, be he the most humble or the most distinguished—or his work restricted—if he is not called upon to cross swords with the disease designated as *typhoid fever.* The treatment of a typhoid fever patient, as we shall attempt to describe, is the outgrowth of our acceptance of the now old and universally admitted theory as enunciated by Eberth, and, except in rare instances, the primary and principal site of infection is in the intestinal tract, although there may be undoubted cases in which there is no perceptible inflammatory process in the alimentary canal.

Taking the fact for granted, then, in the great majority of cases that entrance of the bacilli into the system is by means of the ingesta, we would naturally expect the first local manifestation to be somewhere in this tract. This we find to be the actual condition in nearly all cases. In many cases, one of the earliest and most noticeable symptoms is a peculiar diarrhea, which we take to be a well-directed effort of nature to rid herself of the disturbing elements there. Bacteriologists and pathologists of to-day assert that the real disturbing element is not so much the bacilli themselves, but the toxins produced by them. The toxins are the cause of the toxemia, and when this toxicity is extreme, we have a condition of mental and physical inactivity so familiar to us all who have treated or witnessed many typhoid patients treated according to the old expectant way of management. If the Brand or any other treatment has no recommendation above the old, beyond the preservation of the mental faculties, for this alone they would demand our adoption in every possible instance. It seems the Brand method would favorably impress every thinking mind as meeting in a great measure almost every indication possible to be met in an uncomplicated case of typhoid fever except that to be met by means of intestinal antisepsis. But happy is the physician whose clientele is of sufficient wealth that he may carry the Brand treatment into their homes without frequently meeting insurmountable obstacles; or, on whom his grip is so strong that he will not run serious risk of losing desirable patronage and influence. In hospital practice the cold plunge bath stands easily first as a favorite treatment by the leading teachers of the day, but a large majority of the typhoid patients are treated outside of the hospital, and the question arises, what is the most expedient and successful way to treat them? Our very limited experience is to the effect that the nearest approach, in many respects, to the Brand treatment will be attended with the greatest success.

Elimination of the bacilli and also their toxins, in every way possible, not detrimental to the patient, is the very important object to be attained. This is effected chiefly through the bowels and kidneys, and possibly to a certain extent through the skin. Nature usually begins this eliminative process by a diarrhea, as above stated. In accord with this idea, we should assist by as thorough a cleansing of the bowel as possible. The drugs on which we most rely for aid in this therapeutic endeavor are calomel and chlorin. As a germicide and purgative, calomel meets two important indications. It may be given in from 1/10 to 1/2 grain doses every half hour, as conditions may demand, until six or eight doses are taken. As soon as the bowels move because of the calomel, there should be a free washing out of the bowel with sterilized water, the effect of which may be improved by the addition of a dram of salt to a pint of water. This flushing will do much toward assisting nature, as well as contributing to the comfort of the patient. The course of the calomel, in varying doses according to the susceptibility of the patient to the drug, should be repeated every twenty-four to forty-eight hours. The wash should be repeated as often as the emergency demands, in proportion to the meteorism or bowel trouble. The antiseptic or germ-destroying property of chlorin has long been recognized as very powerful, while at the same time experience has amply proved that it is harmless to the animal economy. Then in addition to this cleansing effect of the calomel, and the washing, on the bowel and contents, we may give chlorin in aqueous solution and still nearer approach a condition of asepsis in the bowel and thus render it less inviting to the bacilli. My favorite way of preparing chlorin is that recommended by Dr. Yeo, with the exception of quinin, which I omit. Take potassium chlorate, grains 30, acid hydrochloric, minims 60, and distilled water 12 ounces. Put the potash in a dry bottle of sufficient size, add the acid, cork the bottle and allow it to stand until chemical action ceases, then add 3 or 4 ounces of the water at a time and agitate thoroughly. This is repeated until the preparation is complete. A tablespoonful is given to an adult every two hours until the offensive character, if such exists, of the evacuations is removed, then the interval is lengthened at night but continued in the day until convalescence is established. By this constantly lax condition of the bowels, the repeated washing out from below and the frequent imbibing of the chlorin solution serves to sufficiently free the bowel of the disturbing elements so that meteorism and its accompanying evils are in a great measure prevented. Autointoxication from this source is reduced to the minimum. So much then in the way of lessening, as well as the removal of a portion, of the products of infection which occur in the intestines. Professor Osler, at the meeting of The Association at Baltimore, some five years ago, stated that "the only thing developed by this intestinal antisepsis is that the walls of the bowel could stand considerably more irritation and strain during typhoid fever than had been supposed." As revealed by the light of to-day that statement should be corrected as follows: Intestinal antisepsis, during typhoid fever, tends to protect and strengthen the walls of the bowel and to that extent is a preventive of extensive sloughing, hemorrhage or perforation.

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In this connection, we next come to the consideration of hydrotherapy as an additional means of sustaining the vital forces, and promoting elimination of the toxic products through the kidneys and skin. In private practice the ideal hydrotherapy is by the sponge bath, hot and cold. Its practicability at once commends it to your intelligence. Any patient who with the aid of his family or friends is unable to carry out this modification of the Brand treatment should be sent to the hospital, where water and nurses are abundant. The familiar maxim, "the greater the skill the better the service," is true in this as well as other callings; for the sponge bath very little skill and usually one nurse will suffice. The free use of sterilized water internally should be maintained throughout the attack, and externally, as conditions may require. If the patient can not take it into his stomach, inject 16 to 20 ounces into the bowel at stated intervals and the effect will be almost the same. We might say he should be drenched internally and externally with water. Internally it acts as a solvent and carrier of the waste matter, to a degree, like flushing out the sewers of a city. It facilitates intestinal antisepsis, it feeds and soothes the famished and parched tissues, favors metabolism, and induces sleep, nature's great restorer. If we follow up this effect with the free use of water externally, hot and then cold, the first effect is the shock, the severity of which depends on the temperature of the water and the hyperesthetic condition of the patient. As a result of the reflex action produced on the nervous system, we have expansion of the lungs, increased elimination of carbon-dioxid, increased oxygenation of the blood, increased blood-pressure, and a consequent increased activity of the lymphatics and other glands, especially the kidneys, which means an increase in the excretion of the toxins in the fluids of the body, and for your patient a bright eye and a clear head. The cold pack or sponge bath does not cause so pronounced a reaction as does the cold plunge bath; neither is it so terrifying and hazardous to the patient. At periods during an attack of typhoid fever the temperature in the majority of cases runs high, so much so that the patient is distressed. The nervous tension is too great, causing extreme restlessness, and if the sponge bath does not relieve it we must resort either to the cold plunge bath or give an antipyretic. What shall we do? In many instances it would be impossible to use the cold bath, in others still, it would be more dangerous than the drug. In the hospital you might use the plunge bath, but in private practice I would give acetanilid, and in about thirty minutes the patient is quiet, the skin is bathed in perspiration and the temperature is coming down within reasonable bounds. Often we will have among our patients those who have rigors. One will complain of being cold, or the extremities are cold while his body is hot, and we find the circulation very rapid and a temperature ranging from 104 to 105.5. If you give him 3 or 4 grains of acetanilid and re-apply ice-cold applications to his head, usually in fifteen or twenty minutes he will begin to complain of burning up. Having experienced this ordeal I can state from personal knowledge that the sensation is one of extreme heat over the surface. But to the patient. In five or ten minutes longer you find him perspiring, the extremities warm, and he expresses himself as feeling comfortable. The exact way in which this effect is produced, I am not yet able to demonstrate, but from repeated observation I am sure that through the nervous system the acetanilid causes dilatation of the peripheral blood-vessels and thus allows the hot blood to flow from the congested parts to the surface, the cooling area. The radial pulsation is slower and shows greater volume. This allows rest for the overworked heart.

Much prejudice exists against the coal-tar derivatives as antipyretics. This prejudice exists in the minds of many of our most learned, but in not a few instances it is held by those who have had very little if any personal experience with them as antipyretics. That they are remedies which should be used with great caution, there can be no question, but that they should be discarded because some have dared to use them recklessly and met with disaster, is not warranted. On the same plea we will strike most every remedy of value from our list.

Along the latter part of the year 1895, I began the treatment of typhoid patients with the view of destroying and removing the bacilli and their toxins in the manner described, believing it to be the rational way of assisting in the correction of the pathological conditions. Since that time seventy-seven typhoid patients have come under our care with the result that all of them recovered. I might say, were permitted to recover, because some advocate the idea that patients so treated, when they do recover do so in spite of the treatment. The youngest of these patients was 4 years of age, and the oldest 63 years. They represent the various callings and conditions in life, from abject poverty to that of plenty. Their nursing and feeding as a rule harmonized with the intelligence and ability of the nurse to carry out the instructions. Diet was restricted to liquids and semi-liquids. Fruit juices were served in liberal amounts if the patients desired them and they could be obtained. If they so desired, they were permitted to masticate and suck the juices of broiled steak. The duration varied from nineteen to sixty-five days, though the average time was only twenty-five and one-tenth days from date of onset to a continued normal temperature. Except when temperature was high they all remained rational. No preparation containing opium was used at any time, save in one case of severe hemorrhage. Hemorrhage occurred in six cases, though very slight in five of those. Ice over the bowels and an enema of cold water containing extract of witch hazel were all that was used to control the hemorrhage in these. In the other case the hemorrhage was so severe and repeated, tincture of opium was added to the injection of witch hazel and water. Aside from this case, no effort was made at any time to check the bowels except by cleansing. When there is diarrhea, a part of the expectant plan is to control that diarrhea by sedatives and astringents, the idea being to preserve the vitality of the patient.

By a comparison of my results with those obtained by others, while employing the expectant plan coupled with the sponge bath, it is found that the results secured by the bath and intestinal antisepsis are the more favorable. The conclusion is that it is a mistake to check a diarrhea in typhoid fever except by the use of a purgative or by a thorough washing with sterilized water. By this, many of the bacilli and their toxins are carried away by the dejecta. Results indicate that the chlorin solution has a very beneficial effect in checking the production of the toxins, or by rendering them less active. That the toxins are largely produced in the glands, lymphatic and others, is not proof positive that the chlorin does not come in contact with them there, to some extent. It is evident that it does, in some way, to a certain degree, destroy or render inert, either in the bowel or elsewhere, a sufficient amount of them to prevent their producing that profound toxicity formerly so common in the disease. It is not held, in the seventy-seven cases reported, that the chlorin was the sole agent in the prevention of the toxemia. The effect of the calomel with the flushing of the bowel, prepared the way or acted as a stepping-stone for the chlorin. The cold bath, through its effect on the nervous and cardiovascular systems, greatly increased the elimination of toxins through the kidneys. With the united effect of these remedial measures the patient is enabled to recover in a shorter period, and with a saving of vital force. In well-regulated hospitals where the patient is under the care of skilled nurses, and no imprudence in the diet could occur, and every detail as to treatment is faithfully adhered to, relapses would be rare and the course of the disease correspondingly shortened. We have the above statement, notwithstanding the reverse opinion is held by gentlemen of recognized and distinguished ability.

DISCUSSION.

Dr. C. Birnie, Taneytown, Md.—My opinion is that the majority of cases result from the ingestion of contaminated water and not through breathing air. The patient and his surroundings should be kept clean and the excretions disinfected, so that neither air nor water be contaminated. I believe that typhoid fever is more easily treated where the bowels are loose. In talking with a prominent man, he told me that he prayed for constipation. I have never found that constipation was a thing to be desired in the treatment of this disease. I think that cool bathing is of great importance, but in country districts it is impossible to carry out the Brand method in all its details, and I can not agree with any statements made that we should treat typhoid fever antiseptically; I believe that this is impossible. Typhoid fever is a disease of the whole body and not of the intestinal tract alone. I disagree with the statements made regarding antiseptics; when we consider the canal, from the mouth to the anus, a twisting and turning canal, there is no known means by which we can antisepticize it. I think flushing the colon is useful, and I have known it to give relief to the flatus; for that it is good. There is a large number of cases that will get well under any reasonable line of treatment. Prescribe for the patient and not for the disease.

Dr. A. E. Roussel, Philadelphia—It has been within the last six weeks that I made a post-mortem on a patient of mine at the Howard Hospital, a young woman about 26 years of age, who had hardly any congestion of the intestinal tract: the most minute observations revealed no break of continuity of the tissues, yet the case responded to Widal's reaction and was evidently one of typhoid fever. How frequently do we see cases with marked meningeal symptoms due to the same cause! Therefore I consider the statements regarding the value of intestinal antiseptics as largely exaggerated. There has been a marked reduction in the mortality from the use of the Brand method. Where the entire treatment can not be carried out I believe that portable bath-tubs should be used. In those cases where a trained nurse can not be procured the application of the baths does not require a great range of intelligence; the member of the family acting as nurse should be taught how to take the temperature, and when the tubbing should be applied. I think the difficulties of applying the Brand treatment has been widely exaggerated. We know positively that before this method of treating these cases was in vogue the mortality ranged from 18 to 20 per cent., while now it runs from 5 to 10 or 11 per cent. I can not fully agree with the last speaker's remarks that those cases which show a mild degree of constipation are more severe and show a larger mortality. Dr. Wilson has had applied in the wards of the German Hospital the Woodbridge treatment, and among the 18 or 20 cases the results were far from being satisfactory. I think there were four or five deaths out of the above number of cases. I have tried many drugs and I have tried cold water, and the latter has proved by far the most efficacious. As regards the entrance of the germs into the system, I think it is undoubtedly in the vast majority of cases through the water-supply, so far as it has been demonstrated. But it is fair to assume that the germs may enter the system through one or more than one channel.

Dr. Louis Faugeres Bishop, New York City—I also wish to state that the antiseptic treatment of typhoid fever has brought nothing but disappointment. I have tried chlorin and other mixtures, and have been disappointed in all. Typhoid fever is a general disease of the whole system and the intestinal tract is not the road through which we should treat it. The opinion of the whole medical world will support the Brand treatment. We should on every occasion preach and teach it. There is one practical point that is worthy of mention, i. e., that a tub is not necessary. In New York City in private practice we seldom use tubs any more. The nurses have learned how to arrange their patients in a rubber sheet, which answers just as well as a tub. Of course these baths are given by skilled and trained nurses. The tub is safer in unskilled hands. As to the merits of the Brand method, all are agreed that its chief merit lies in the support it gives to the circulation and the restoration of the nervous system, and that any reduction of temperature is a secondary matter, though, of course, important. When the patient gets a cold bath the effect is the same as it is in health; the respirations are deepened, the circulation is increased, the nervous system is wonderfully uplifted. It does not diminish the number of intestinal hemorrhages or perforations, but it certainly does not increase them.

Dr. H. M. Fussell, Philadelphia—I am glad that I heard it mentioned that a modification of the Brand method can be used in private practice. After protecting the bed and floor with the rubber sheet, the water should be allowed to fall upon the patient from a height of from four to five inches above his body. I may have mistaken Dr. Peck's point in reference to antipyretics and I can not let his remarks go unchecked, because it is so much easier to give drugs than to give the baths. Antipyretics certainly reduce temperatures, but not in the same way as the cold bath does. I do not believe that intestinal antiseptics, given in a general way, do any good, but I have used in conjunction with the Brand treatment salol as a local measure. If there is a severe case of diarrhea, this is checked by this drug. I think we should depend upon cold water

Dr. J. M. Peck, in closing—Evidently some of the gentlemen failed to hear or else misunderstood the ideas expressed in the paper. I did not intimate that typhoid fever is a local disease, but that in typhoid fever we may, and usually do, have in the intestinal tract a local manifestation of the disease. The view taken in the paper is in perfect accord with that of the bacteriologist and pathologist of to-day. The degree of toxemia depends on the amount of toxins, and their amount depends on the multiplicity of the typhoid bacilli; hence our contention that any means by which only a part of the bacilli are carried away or the intestinal tract rendered less inviting to, or less favorable to the production of, the bacilli is so much to the help of the patient. Our experience with cases in which a constantly lax condition of the bowels and free flushing of them with sterilized water and frequent ingestions of chlorin fully justifies our faith in the treatment. This kind of intestinal antisepsis combined with the external application of cold as suggested in the paper will yield better results in private practice than any other yet suggested. If those using the Brand method exclusively will add to it intestinal antisepsis they will improve on their already good results. I do not believe the intestinal tract can be made strictly aseptic, but am thoroughly convinced by clinical experience that the septic products may be so reduced that auto-infection and auto-intoxication are kept in comparatively safe limits. The objection raised that the chlorin is a nauseous dose is purely imaginary, since by the addition of aromatics the most fastidious may be pleased. To be sure, the coal-tar derivatives should be used with caution, and when so used the life of your patient is in no sense endangered thereby, but is actually safe-guarded. The fact that they are potent drugs should not cause us to discard them any more than should strychnia, belladonna and a host of other powerful, but exceedingly valuable remedies be discarded. I repeat that, with judicious use, there is no danger of, or excuse for, killing a patient with acetanilid.

Violation of Quarantine.—An eclectic practitioner of Appleton, Wis., who has achieved a somewhat unsavory notoriety by his recent flagrant violation of accepted health regulations, who escaped from quarantine at Appleton, and passed through Chicago to Terre Haute, Ind., was apprehended in Milwaukee, January 30, and sent to the isolation hospital there.

INFLUENZA, ACCOMPANIED BY FOUR DISTINCT PNEUMONIC ATTACKS.

OTITIS MEDIA PURULENTA AND CEREBRAL HYPEREMIA, COLITIS, INANITION—RECOVERY.

JULIUS ULLMAN, M.D.
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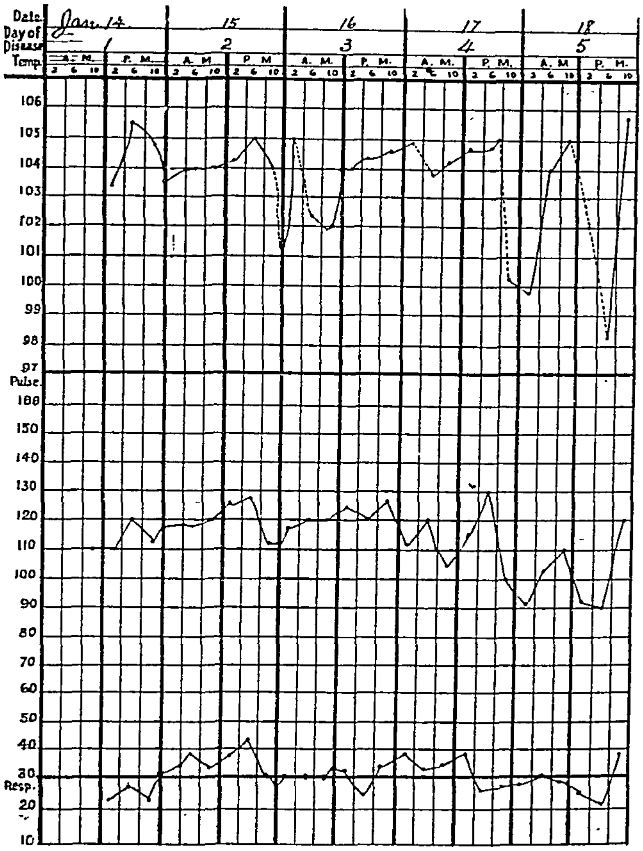
BUFFALO, N. Y.

As excuse for recital of this case may be given its very unusual course and happy termination in recovery.

Allen D., aged 23 months, suffered during last summer from a dysenteric diarrhea, for which he spent two months on a farm and ultimately recovered. Twelve days previous to the present illness, I treated this baby for parotitis. On January 12, when I called I found him irritable, with flushed countenance and considerable amount of dry cough; temperature 103.6; pulse 112; respiration 32. The tongue was coated, and there was anorexia. The examination of the chest revealed by auscultation, subcrepitant râles, especially over both bases of the lung posteriorly. The onset was abrupt and the baby soon showed a marked apathy due to toxemia.



First Attack.

In the further discussion of the case I shall confine myself to the interesting and unusual temperature chart herewith presented.

The first attack of pneumonia, which was of a bronchopneumonic type scattered with here and there very small areas of consolidation, was associated with a very high temperature-curve, reaching a maximum of 105.6 F. The respirations were as high as 42, and the pulse at one time reached 135. The lines, indicating the abrupt fall of the temperature, show the effect of cold sponges and packs.

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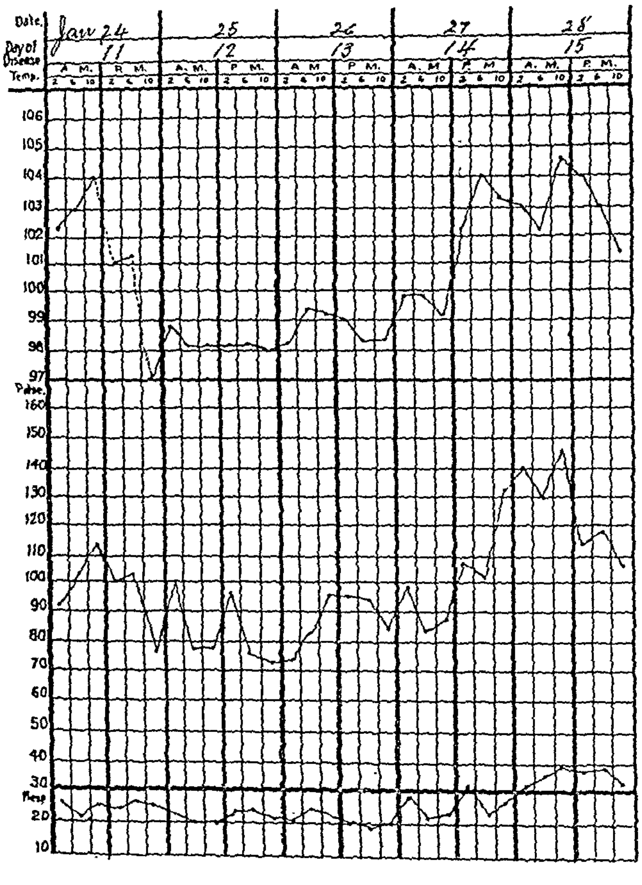
* Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The first temperature-curve dates from January 14 to 24, eleven days inclusive. On the 9th and the 10th there was a blueness of the lips; the respirations were shallow, the pulse feeble and frequent, and emesis appearing it became necessary to give nourishment and medication by enemata. The babe meanwhile, first apathetic, became comatose; the eyes strabismic, the legs and arms strongly flexed and rigid, the head retracted, and with Kernig's sign, it was thought a complicating meningitis developed, but fortunately this was in all probability due to the active cerebral hyperemia resulting from the hyperexia, for on January 24, the eleventh day, the temperature suddenly descended by crisis and the pulse and respirations were reduced to normal. It was thought that the babe had withstood a severe type of influenza pneumonia, but we were disappointed, for after two days of calm—twelfth and thirteenth—the temperature, pulse and respirations again abruptly rose; there was again developed a dry cough, and on examination of the chest there was found complete consolidation of the left upper lobe with crepitant râles and a distinct quality of bronchial breathing. The child meanwhile showed great prostration, with respirations frequently dyspneic and shallow, reaching 40. There was great restlessness and irritability and the baby acted as though in great pain. Because of the manner in which he would raise his hand to the face, our attention was directed to the examination of the ears, and a slight purulent discharge—otitis media purulenta—was noted from the right ear; this affection, after the usual treatment, improved in a few days so that the patient was less fretful and suffered less pain.

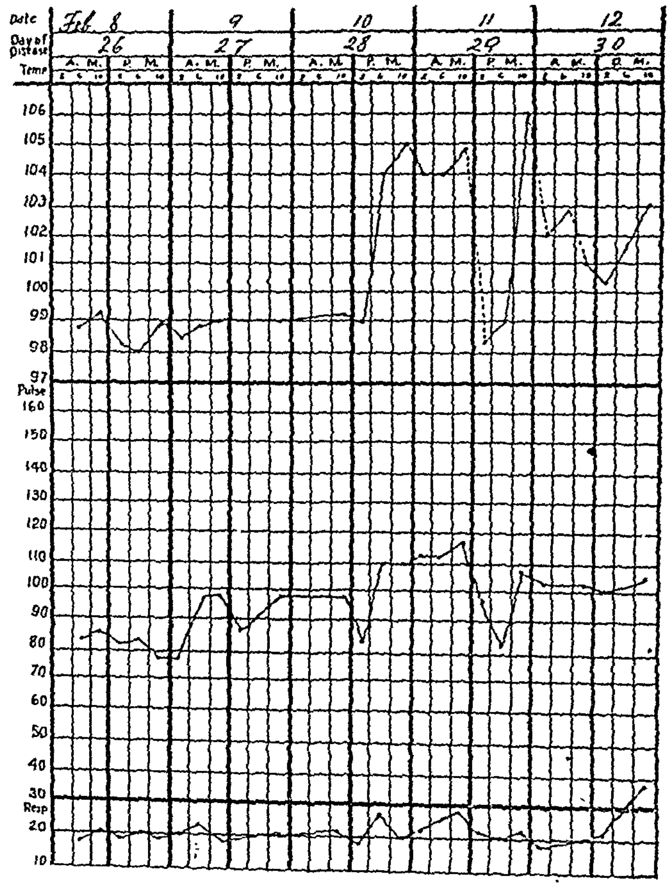


Second Attack.

The tongue was coated, well-marked tympanitis was present, and it was noticed that the dejecta contained quantities of mucus, so that it became necessary to institute high-bowel washes. This attack lasted from January 27 to 30—fourteenth and seventeenth days of disease—inclusive, when temperature, pulse and respirations again descended by crisis, reaching a subnormal point, 97. The pulse became stronger and less frequent, the respirations fuller and easier, and the patient perspired freely.

The babe, because of his inability to properly take and assimilate nourishment, was anemic and lost in strength and flesh, so that beginning with the second period of calm, inunctions of cod-liver oil were given daily. This second period of calm, during which the consolidation of the right lower lobe with crepitant râles appeared, was ten days in duration—January 31 until February 9, eighteenth and twenty-eighth days of disease.

On the afternoon of February 10, or twenty-eighth day, there occurred another abrupt rise of the temperature, and on examination of the chest, a new area of consolidation of the right lower lobe with crepitant râles and bronchial breathing was found; the left lower lobe gave by auscultation evidences of subcrepitant râles, but no consolidation.



Third Attack.

This attack, extending from the twenty-eighth to the thirty-fifth days, was especially severe, the chart reaching on the 13th at 10 p.m., temperature 106; pulse 128; respiration 42. The cheeks were flushed, suggestive of the hectic flush of phthisis. On the 16th there appeared a herpes labialis; there was cyanosis; the respirations were labored, shallow and cautious; the pulse was frequent, small and intermittent. There was anorexia and great irritability, the patient often refusing to swallow nourishment or medicine. Tympanites and tenesmus developed, and the dejecta showed large quantities of mucus. Again the arms and legs were often retained flexed and rigid and the head retracted. A great loss in weight and strength was noted during the attack.

On February 17 a crisis again occurred. The temperature remained normal for seven days inclusive.

On March 24, the forty-second day, there was another rise of the temperature, pulse and respirations; however, no such elevation was reached as in the previous attacks, for the reason that there was less reaction to the toxemia. The cough was dry and regularly paroxysmal. The lungs showed no consolidation, but subcrepitant râles and a bronchovesicular quality of breathing were detected over both bases, the left interscapular and mammary regions.

The colitis still continued and there was an anemia and emesis with great emaciation, the muscles becoming very much atrophied. The babe presented the appearance of inanition, and because of the continuity of fever, the hectic flush, the colitis, perspirations, the morning remissions of temperature, we were led to differentiate between influenza, malaria, remittent fever, tuberculosis and sepsis, i. e.. empyema.

It was at this time a blood examination was undertaken by Dr. A. E. Woehnert, the report of which follows:

> The hemoglobin was 50 per cent.; the erythrocytes numbered 3,500,000. There was a leucocytosis, but not of the polynuclear type, of 14,000. Lymphocytes, 97 per cent.; polynuclear leucocytes 3 per cent.; no eosinophiles, microcytes, poikilocytes. A picture of chloranemia or severe form of secondary anemia.

In the presence of leucocytosis we were justified in excluding a tuberculosis without cavity formation. A tuberculosis with secondary cavity formation could be excluded by, 1, the lack of physical signs; and 2, by absence of a polynuclear leucocytosis.

Empyema was excluded by physical signs, but in view of the fact that our patient appeared pyemic and that the temperature-curve reminds one of pus, and also because there are some cases, especially in infants and very young children, which give no absolute physical signs and which can only be positively diagnosed by exploratory puncture, the absence of polynuclear leucocytosis excluded it.

The blood examination, therefore, was of assistance in diagnosis in excluding the diseases enumerated above. The secondary anemia can be attributed to the toxic effects of the existing infection on the erythrocytes, causing a loss in the hemoglobin and their partial destruction. As to the increase in the lymphocytes, it was not sufficient to be attributable to a leukemia, and of this there were no nodular or splenic signs, otherwise than could be attributed to the existing inanition. Cabot regards an increase of a leucocytic count in infancy as made principally of lymphocytes, and this change is to be regarded as a mark of the arrest of the development or reversion to an earlier type of tissue. Unfortunately, we did not seek the influenza bacillus, but the prevalence of the disease sporadically at that time and the behavior and course of the history, especially considering the susceptibility of the patient after the attack of parotitis and the exclusion of the other diseases previously considered, left no doubt in my mind as to the diagnosis. The last edition of Ashby and Wright says the diagnosis often has to be made by process of exclusion and nature of epidemic prevailing.

It is interesting to note that we had: 1, an influenza bronchopneumonia scattered and in very small patches giving no definite areas of consolidation, but which showed the characteristic physical signs by auscultation; 2, that the second and third attacks were either, *a*, lobar consolidation in which the organism affected primarily the alveoli, such as is described in Frinkler's monograph on influenza, or, *b*, that the lobules quickly coalesced giving a lobar variety of bronchopneumonia, or, *c*, that there was added a complicating true diplococcus or streptococcus pneumoniæ producing characteristic consolidation.

Purulent otitis is a very frequent complication of influenza. It may appear during the course of the disease or convalescence. It may be produced by the influenza bacillus, but often is a secondary infection due to pyogenic bacteria. Every epidemic of influenza increases the quota of diseases of the ear, and this complication should be carefully sought for.

Lastly, the colitis may be regarded as belonging to the intestinal manifestations of the disease and probably produced by swallowing the sputum, and the condition of inanition becoming secondary to the intestinal lesions and long continuance of the infection which must have produced changes of an atrophic form in the secretory function of the intestinal tract.

In view of the bad prognosis in children of influenza complicated by pulmonary disease, the severity and multiplicity of the pneumonic attacks and the ultimate recovery are emphasized.

It is a year since I first saw the child and the recovery is absolute. The child has gained in strength and weight and the lungs and other organs are normal.

AURAL MANIFESTATIONS OF SYPHILIS.*

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Among 2500 consecutive cases treated in the outpatient department for diseases of the ear of the Pennsylvania Hospital there have been but seven in which the trouble was distinctly of syphilitic origin. They were as follows:

Case 1.—A man, white, aged 25, a musician, presented himself suffering from undoubted secondary syphilis. There was a very general squamous eruption, and he had lost a large amount of hair. He had a chancre seven months before. There were several large squamous syphilids on his right auricle. These healed completely after a course of mixed treatment, accompanied by the local application of calomel ointment.

Case 2.—A woman, white, aged 27, with marked symptoms of tertiary syphilis, had been deaf in the left ear for four years, and had suddenly lost her hearing in the right ear four days before coming to the dispensary. She suffered also since the trouble in her right ear had begun from very severe vertigo. There was total loss of bone conduction. The diagnosis of syphilitic labyrinthine deafness was made, and under large doses of potassium iodid she speedily improved. She passed from under observation before her hearing was completely restored, but her rapid and steady improvement gave us reason to hope that she would have regained it if she had persisted in the treatment prescribed for her.

Case 3.—A boy, white, aged 9 months. The mother said the child's father had syphilis. When brought to the dispensary it had a large gummatous mass, which had broken down and formed an abscess, involving the auricle and the tissues above and in front of it. There was much glandular enlargement in other parts of its body and it was very weak and miserable looking. The mother said it had had "the snuffles" since birth. The pus was evacuated, and under specific treatment the child improved rapidly.

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CASE 4.—Boy, colored, aged 9 years. For one week previous to coming to dispensary he had complained of roaring in the ears and deafness. There was no pain and no discharge from the ears. The drums were intact, very slightly retracted. Aerial conduction was slight and bone conduction was lost. The boy was poorly nourished, had Hutchinson teeth, and enlargement of post-cervical lymphatic glands. Under specific treatment he began to improve, but soon ceased coming to the dispensary.

CASE 5.—A colored man, aged 25, bartender, suffered from secondary syphilis. Four weeks previous to coming to the hospital his right ear began to swell; the swelling was intensely painful. The man positively asserted that he had sustained no injury and there was no evidence of any previous injury or furuncle about the ear. He recovered completely on potassium iodid internally, with the local application of yellow oxid of mercury ointment to the ear. This case I have already reported.*

CASE 6.—A woman, white, aged 30, single, domestic. Twelve years ago she had an abscess in the frontal region, accompanied by much loss of frontal bone substance, leaving extensive depression and scarring over forehead. There was a large perforation through the bony portion of the nasal septum. Her hair was scanty and quite gray. Four years ago she had gone to bed one night with apparently perfect hearing, but when she awoke was hardly able to hear anything with the right ear, and in a few days became deaf in both. She is now under treatment for specific iritis. Examination showed membrane opaque and retracted. Both bone and aerial conduction of sound were totally lost.

CASE 7.—A woman, white, aged 55 years, mother of Case No. 6. She came with her daughter to the outpatient department and said she was "going deaf." Examination showed both drums very fibrous and opaque. In the right ear she was deaf to both aerial and bone conduction. No definite history could be obtained as to whether her deafness had been of sudden onset or otherwise. There was a large perforation through her bony septum. She denied with great vigor the possibility of syphilitic infections either of herself or her daughter, declaring that her husband had been a perfectly healthy man until his death from some acute disorder some years ago. She had no other evidences of syphilis than those narrated above.

I do not think that syphilis can be a very frequent source of ear disease, as if it were, there would surely be more frequent mention made of it, and yet when we realize how many of the patients who come to dispensaries are the victims of syphilis, in many cases not manifest on superficial examination, it is possible that sometimes syphilis as the underlying cause of their trouble may escape our notice. In the cases I report, the diagnosis was plain, but in going over the literature on the subject one is struck with the great variety of ear lesions which have been described as occasionally of syphilitic origin. It seems to me very probable that many seemingly most obstinate cases which do not yield to local treatment may possibly be due to syphilis and only awaiting proper constitutional treatment.

Knapp[1] quotes the following startling statement by Hinton: "Hereditary syphilis furnishes more than one-twentieth of all the aural patients at Guy's Hospital." Knapp says that this is certainly not a correct estimate as regards the frequency of such cases in other places.

EXTERNAL EAR.

Primary syphilis of the external ear is extremely rare. Politzer[2] refers to four cases. One was reported by C. Pellizzari[3] in which infection followed the use of a handkerchief that had been previously used by the syphilitic son of the patient. The second was reported by J. Zucker[4] as resulting "from the too fervent love-caress of a publican." The third case was reported by Hermet[5] as occurring in a woman who was caressed by her syphilitic husband. The fourth case was related to Politzer by Hermet, and was a phagedenic chancre on the auricle and lobule following the bite of a syphilitic. Depres[6] reports a case of chancre of the auricle. L. Duncan Bulkley[7] in an analysis of 9058 extragenital chancres found 27 cases in which the chancre was located on the external ear. He reports one case occurring in a man whose ear was bitten by a man who had mucous patches in his mouth. Mracek[8] in a study of 400 cases of extragenital chancres found but 3 located on the external ear.

Secondary and tertiary manifestations of syphilis of the most varied character are described as occurring in the auricle and external auditory canal. Any of the ordinary cutaneous lesions of syphilis may involve the auricle and canal. Thus, one case I report was that of a man in whom a syphilitic skin-eruption of squamous nature had extended to the auricle. Knapp[9] reports a case of condylomata occurring in both external auditory canals in a woman who had contracted syphilis six months previously. He refers to a very similar case mentioned by Wilde in his "Practical Observations on Aural Surgery," and to the fact mentioned by Stöhr[10] that he had seen 14 cases of broad condylomata of the canals, 11 of which were in females. Also Noquet[11] refers to bilateral condylomata of the external auditory meati. M. A. Goldstein[12] reports an interesting case of bilateral syphilitic ulceration of the auricle in a colored man who had contracted syphilis six months before. G. W. Linthicum[13] also saw bilateral syphilitic ulcers of the auricle in a negro. C. D. Roy[14] reports a case of condylomata of the left external auditory meatus in a colored man who had secondary syphilis. R. Barclay[15] reports an interesting case in which syphilitic ulceration of the auricle resulted in sequestration of the cartilage of the concha and membranous atresia of the canal causing deafness, which was relieved by operation. H. Mendel[16] reports the case of a woman who eight months after contracting syphilis developed an intense cellulitis of the auricle. Würdemann[17] describes bilateral condylomata of the external auditory canals in a man who had had a chancre fifteen years before. A. H. Buck[18] saw three cases of syphilitic ulceration of the external auditory canal. Depres[6] in 1200 syphilitics observed condylomata of the external auditory meatus in five cases. Politzer[19] refers to a case seen by Lang, in whom there was a syphilitic papule in the position of the short process of the malleus in a woman with general syphilis. Politzer saw a characteristic syphilitic ulcer form on the inferior wall of the meatus in the course of a chronic suppurative otitis media. The patient had likewise pharyngeal syphilis. In another case he saw a syphilitic ulcer occupying the whole length of the cartilaginous wall of the meatus, accompanied by another syphilitic ulcer on the concha. The *Philadelphia Medical Journal* of March 4, 1899, contained a paragraph stating that a case of gumma of the helix had been seen recently at the Ricord Hospital in Paris, and had excited much attention because of its rarity.

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* In Philadelphia Medical Journal, June 24, 1898.

Hereditary syphilis of the ear manifests itself most frequently in the middle and inner ear. One of the cases I report in which the external ear was involved, however, was hereditary, namely, the gumma of the auricle in the child.

MIDDLE EAR.

Syphilitic disease of the middle ear most usually originates from infection through the medium of the Eustachian tube. Politzer says that Itard[20] described purulent inflammation of the middle ear following syphilis. He cites Ricord, Lancereaux, Blanchet, Fournier, Bonquoy, Laboulbène and Baratoux, as having observed "primary chancroid ulcers at the ost. pharyng. tubæ. They may occur as the result of catheterization."

Jonathan Hutchinson[21], in describing a number of cases of syphilitic disease of the ear, remarks that facial paralysis as a result of syphilitic disease of the ear, though less common than deafness from that source, is sometimes seen, and several of the cases he reports presented such paralysis. One of his cases of secondary syphilis lost his hearing simultaneously with the development of facial paralysis. He recovered from the palsy, but remained permanently deaf. Another case developed facial palsy accompanied by intense earache, but without any impairment of hearing. Hutchinson attributed the condition to syphilitic inflammation of the structures in the middle ear which did not extend to the external ear. Elsewhere[22] Hutchinson says that otorrhea is not a prominent symptom in syphilitic ear disease, adding, "I have never yet seen a case of profuse otorrhea attended with ulceration, growths of granulations, etc.—such as are common in cachectic or strumous children—in an heredito-syphilitic otitis. Hutchinson thinks that secondary syphilitic otitis is to be regarded as analogous to secondary syphilitic iritis, and that the lesions it creates are usually permanent. The deafness of tertiary syphilis, he says, is of less importance, and is usually temporary.

Woakes[23], on the other hand, observes that many cases of "so-called strumous otorrhea in children are due to an inherited taint (of syphilis)." He thinks syphilitic caries of the bone is frequently responsible for the long-continued suppuration.

Hereditary syphilis was considered by A. C. Cotton[24] as the causative factor in the case of a child of 15 months who had other undoubted evidences of the disease associated with chronic suppurative otitis media in both ears.

F. M. Wilson[25] publishes the aural history of an undoubtedly syphilitic family, in which, out of five living children, three had chronic suppurative otitis media. Dr. Wilson says that these cases may have been due to syphilitic disease of tympanum, or to lowered vitality, or else were merely coincidental.

Burnett[26] describes the interesting case of a man who went to bed with apparently normal hearing, but on arising found himself deaf in the right ear and suffering much from tinnitus in it. Examination revealed hearing normal in left ear, but hearing was lost to air conduction in the right ear, remaining normal, however, for bone conduction. There were evidences of syphilis in the throat. As there was no loss of bone conduction, although the deafness was of sudden onset, Burnett attributed the condition to the fact that granuloma, or circumscribed, small round-cell infiltration, had formed in the tympanum with great rapidity, and had by fixation prevented the normal movements of the conductive apparatus from being performed.

John Dunn[27] reports a case of exudation into the membrana tympani about the head of the malleus in a man who had manifestations of secondary syphilis. The membrane was punctured and under specific treatment the exudate disappeared. Dr. Dunn attributed the local condition to the constitutional disease.

INTERNAL EAR.

Of the cases which I report, four presented evidences of syphilitic disease of the internal ear. It is generally very late in the course of syphilis before lesions of the internal ear manifest themselves. Like almost every other subject in medicine, at one time much was said and written on the subject, but of late it has been allowed to drift into innocuous desuetude, not, however, I am convinced, because we know all there is to be known on the subject. The subjective symptoms are tinnitus and deafness, peculiar in that they are of sudden onset, especially the deafness. Hearing is generally lost in both ears, though frequently in but one. Unilateral facial paralysis is a not infrequent phenomenon.

S. Latimer Phillips[28] reports the case of a man who, three months subsequent to having chancre on his penis, became suddenly deaf and developed unilateral facial paralysis. In this case it would seem as though the facial nerve and the internal ear were simultaneously overwhelmed in a syphilitic catastrophe.

Syphilis of the labyrinth may occur in hereditary or acquired syphilis. Knapp[1], indeed, thinks that inherited syphilitic disease of the ear is characterized by the preponderance of labyrinthine symptoms over those of catarrhal inflammation of the middle ear. He reports several cases bearing out this view. He refers to the frequency with which syphilis of the brain or eyes is accompanied by aural syphilis.

Mygind,[29] in reporting a case of inherited syphilitic deafness in which ocular manifestations preceded those in the ear, likewise observes that this is frequently noticed in hereditary aural syphilis. The most frequent ocular lesions are keratitis, choroiditis, or iritis.

R. Barclay[30] reports the case of a girl of 12 years who had suffered from syphilitic eye trouble, and for over a year previous to being brought to him had been slightly deaf. Two weeks previous to coming to his office she had suddenly become practically entirely deaf. The child had Hutchinson teeth, and her father acknowledged having syphilis. Barclay says that aural syphilis usually becomes manifest shortly before puberty.

Buck[31] reports the case of a child with hereditary syphilis who lost its hearing in the course of three or four days. Subsequently the child developed syphilitic disease of the eye.

Crocker[32] reported three cases of syphilitic ear disease occurring during the secondary stage of acquired syphilis. All three cases presented very sudden and severe deafness, more or less vertigo and violent tinnitus occurring in persons previously free from ear trouble. He says that this complex of systems should always suggest syphilis, though the same group may sometimes be seen in rare cases of labyrinthine hemorrhage or tumor, and in cases occasionally seen in sudden fixations of the stapes. He mentions as very characteristic of syphilitic disease of the ear, present in these three cases, the following hearing tests: deafness for the watch and voice was marked, a tuning-fork of middle register was wholly lost to bone conduction, but fair for air conduction; the upper register, as shown by the

Galton whistle, was more or less diminished, while the lower limit remained unaltered. He attributes these cases to sudden effusion into the labyrinth, and thinks pilocarpin acts as a specific in them, when given in conjunction with mercury and potassium iodid.

Toeplitz[33] reports an interesting case of labyrinthine syphilis following pharyngeal syphilis and unaccompanied by any middle-ear lesion.

Theobald[34] saw a case of what he regarded as labyrinthine syphilis in which there were most remarkable variations in the hearing power, sometimes quite good, at other times almost nil. This has been noted as a feature of syphilitic deafness by several other observers.

G. A. Syme[35] reports two cases of acquired syphilis in which there was sudden loss of bone conduction, with staggering gait, and tinnitus, which showed marked improvement under large doses of potassium iodid. Buck long ago pointed out the fact that when the auditory nerve was involved it was usual to speak of affections as labryinthine syphilis, whereas. as a matter of fact the auditory nerve may be involved before its entrance into the labyrinth.

Roosa[36] advanced the statement that the most frequent seat of the lesion causing sudden loss of hearing in syphilis was to be found in the conducting apparatus and not in the labyrinth. In a later paper[37] he reiterated his opinion, and gives the following conclusions regarding suddenly developed deafness in connection with syphilis: "1. Very great impairment of hearing occurring suddenly, and not to be explained by the conditions found in the auditory canal or middle ear, so far as we can examine them, and not relieved at once by mechanical treatment, whether occurring in the course of syphilis or not, probably depends upon a lesion in the labyrinth or in the auditory nerve. 2. Absolute or nearly absolute deafness, the inability to hear certain tones, are symptoms of either primary or secondary lesion of the labyrinth. 3. If the tuning-fork be heard very feebly or not at all when placed upon the skull, or if it is heard better through the air than when placed upon the bones, it is probable that there is disease of *the labyrinth*. 4. Syphilitic disease of the labyrinth, if vigorously attacked by means of mercury and iodid of potassium *soon* after the beginning of the disease, may often be alleviated and sometimes cured. 5. Pathological examinations of the labyrinth, although not numerous, have already demonstrated that changes may occur, which confirm the conclusions that have been formed from clinical investigation."

W. Downie[38] describes the lesions found at autopsy in a boy of 17 years, the victim of inherited syphilis. The boy had had syphilitic manifestations in the eyes. Deafness came on gradually for about six months, but total loss of hearing occurred very suddenly. At the post-mortem the external auditory meatus was normal, the membrana tympani thin and free from adhesions, and the malleus and incus in healthy condition. The stapes, however, was "incorporated with, or ossified to, the border of the foramen ovale, and so had become immovably fixed to the wall of the tympanum." The mucous membrane of the tympanum was normal. The internal auditory meatus at its inner extremity was of average normal caliber and both the auditory and facial nerves were healthy, but on tracing it outward at 1 cm. from the inner opening, the upper wall became suddenly thickened, encroaching on the canal, and at a farther distance of 3 mm. the canal was almost entirely obliterated. The vestibule was so greatly encroached upon as to make it doubtful whether any portion of this space remained. The cochlea was of average size, but the modiolus and lamina spiralis ossea were so thickened as to occupy an unusually large proportion of the cavity of the cochlea. Of the semicircular canals there was left only a trace of the external, the rest of this portion of the labyrinth being lost in an ivory-like mass of bone. This agrees with Burnett's[39] statement that the lesion in syphilitic disease of the labyrinth is a sclerosis of the petrous portion of the temporal bone, with ankylosis of the stapes in the oval window, accompanied by thickening of the periosteum of the vestibule and the footplate of the stapes, with hyperplasia and infiltration of small cells into the connective-tissue supports between the membranous structures in the labyrinth and the wall of the bony cavity containing them. The round-cell infiltration may be disseminated throughout the periosteum of the lamina spiralis ossea, the zona punctata and the organ of Corti.

Crockett,[32] in reporting some cases of suddenly acquired syphilitic deafness, says of the pathological conditions found, that we commonly find changes in the periosteum about the footplate of the stapes and the cochlea in the vicinity of the latter, and also degenerative tissue changes in the nerve-cells and blood-vessels of the cochlea. From clinical evidence he attributes the sudden deafness to effusion in the labyrinth.

J. Baratoux[40] records the results of 43 autopsies on infants and children suffering from inherited syphilis. In these he found syphilitic lesions of the middle ear in 27, of the labyrinth in 4, and of both middle ear and labyrinth in 12. When the middle ear and internal ear were both affected, without pus formation in the internal ear, there was vascular injection and cellular infiltration of the soft parts of the labyrinth, the ampullæ and semicircular canals, and instead of the normal liquid of the canals, the parts were bathed in a serosanguinolent fluid. When the internal ear alone was affected, the changes were more marked. The caliber of the vessels was diminished by cellular proliferation in their walls, and sometimes they were obliterated by fibrinous clots. In some instances the labyrinth was markedly congested and there were hemorrhagic areas on the membranous portion, thus proving that the internal ear may be the seat of hemorrhage in hereditary syphilis. From the therapeutic point of view, the only thing of real value is to push the constitutional treatment of the patient, varying between mercury, potassium iodid or the mixed treatment, according to the stage of the disease in which the patient is seen. At one time pilocarpin was highly lauded in syphilis of the internal ear. Risk[41] and others reported cases which had been benefited by its use. At present it is practically abandoned. Of course, if there is suppuration of the middle ear, or ulceration of the external auditory canal, local measures must be added to the specific treatment.

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PREVENTION OF INTRACRANIAL AND INTRAVENOUS COMPLICATIONS IN SUPPURATIVE DISEASES OF THE EAR.*

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The predominant task of modern otology has been the evolution of an efficient treatment for mastoiditis and its complications. Formerly, surgical interference with the mastoid region was regarded as a formidable undertaking. In these days, however, we are accustomed to reports of mastoid disease in which cerebral abscesses have been evacuated, thrombosed intracranial sinuses opened and obliterated, and the internal jugular vein removed. Such cases exemplify surgical achievements of the highest order. We must not be dazzled by them, however, for it is a fair question whether there should be any cases of otitic cerebral abscess, or of otitic sinus-thrombosis, or of otitic pyemia. It seems to me that such complications are preventable, or, at least, that they may be relegated to the category of rare occurrences. The following observations are submitted as a contribution to the discussion of the ways and means by which the supervention of these complications may be obviated.

Clinically, every otorrhea should be regarded as a consequence of invasion of the chambers of the middle ear by infective micro-organisms. It is the most obvious and persistent sign of local infection. In thinking of the middle ear, most of us are apt to fix our attention upon the tympanum. But we should remember that the antrum and the cells of the mastoid process are also component parts of the middle ear. It is inconceivable that an inflammatory process, either acute or chronic, should be limited to the drum. It is not to be supposed that the tympanum may be inflamed, while the antrum, lying adjacent, and having the same vascular supply, and the same innervation, and a lining membrane of the same nature, remains unscathed by the disease. Moreover, it is highly probable that the mastoid cells are more often invaded than we are accustomed to believe. These things being true, it is evident that we must search for the sources of an otorrhea, not only in the drum, but also in the antrum, and in the cells of the mastoid process.

Gross inspection of the parts involved in suppurative diseases of the ear shows the lining membrane of the tympanum, antrum and mastoid cells engorged with blood, swollen and softened, in the acute stages, and converted into fungous granulation tissue in the advanced stages of the disease. The underlying bone is inflamed; it is commonly in a state of caries. The changes in the mucous membrane and in the bony walls may present every degree of intensity, and every stage of progress. Pus-formation may be marked, or it may be insignificant. Cholesteatomatous masses are often present in the chronic cases. Almost without exception, the first outlet for the discharges is by the auditory canal through the ruptured membrana tympani. The disease may spread, notwithstanding such drainage, however free, to the intracranial as well as to the extracranial structures. It may extend in two ways: 1, by erosion of bone in continuity; and 2, by escape of the infectious agent from the middle ear through the blood-vessels, or by the apertures in the bones, or through the lymphatics. The bone separating the chambers of the middle ear from the cranial cavity, or from the external world, need not be deeply eroded.

Every one who has critically examined the chambers of the ear in the various stages of chronic purulent otitis media must be convinced of two things: 1, the doubtful probability that advanced disease may be permanently controlled by treatment through the external auditory canal; and 2, the eminent desirability of a permanent eradication of the infective inflammation.

Experience demonstrates that if we wish to prevent the spread of infection from the middle ear to the intracranial regions, the conditions on which the otorrhea depends must be removed. After extension of the infection has occurred, it is generally agreed that operative interference should be undertaken. Also, when swelling with fluctuation develops behind the auricle, no physician would object to an operation. But in the absence of those reasons for operating, which even the uninstructed are able to appreciate, it is customary to recommend palliative measures, rather than resort to means which will permanently remove the focus of inflammation. Although in certain recognizable cases the simpler means will succeed, it is not good judgment to favor a prolonged trial of any method of treatment that is not producing palpable results.

In the majority of cases the objective symptoms will guide us aright in deciding upon the prophylactic operation. I shall ask you to consider, *seriatim*, seven objective indications for the mastoid operation, which may be recognized by the general practitioner.

1. Bulging of Shrapnell's Membrane, with Swelling at the Inner Extremity of the Auditory Canal.—The upper posterior quadrant of the membrana tympani is known as Shrapnell's membrane. Whenever, in purulent otitis media, it bulges into the auditory canal, and especially if swelling at the inner extremity of that canal be associated with it, we may assume that the mastoid antrum is seriously involved, and that the radical operation will probably be necessary to the patient's recovery. It is generally agreed that a free incision should be made through the drum-head in every case. Too great faith may be based on that treatment. The pus is always thick and tenacious, and it may not flow readily, even through a large aperture. Retention of pus in the ear can not be regarded too seriously; and, whenever incision of the drum-head fails to establish efficient drainage, it will be more prudent to open the mastoid antrum at once, rather than subject the patient to the dangers of delay. Those dangers are especially great in diphtheria, scarlet fever and influenza.

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The following history of a case will illustrate some of the prominent features of acute purulent otitis media:

M. O., 29 years of age, consulted me in February, 1899, for inflammation in his nose and throat. He had never had trouble with either ear. There was marked chronic dilatation of the submucous blood-vessels over both inferior turbinated bones; enormous posterior turbinal hypertrophies were present; and his entire pharynx was subacutely inflamed. About two weeks later, he had an attack of acute purulent otitis media in his left ear. Swelling at the inner extremity of the external auditory canal occurred early. The drum-head ruptured spontaneously before he returned to the dispensary with the ear inflamed. After ten days' treatment as an out-door patient, he was admitted to the Metropolitan Throat Hospital, where he remained about a week. The ear having improved, he was permitted to resume his indoor work. The inflammation relapsed almost immediately, and he was readmitted to the hospital on March 21, 1899, suffering from very severe pain in the ear. The mastoid process and the upper portion of the sternocleidomastoid muscle were very tender. The discharge from his ear had diminished, and he had had two mild chills. His temperature was 100. His general appearance was that of great suffering.

On March 22, assisted by Drs. C. J. Strong and E. M. Alger, I opened the mastoid cells, and established communication with the tympanum through the antrum. Pus was found in the inferior cells especially. The diseased mucous membrane and bone having been removed, the entire region was thoroughly disinfected and dressed antiseptically.

On the eighth day, the first redressing was made. There had been no discharge from the wound, or from the ear; and the wound was apparently healed throughout. On the eleventh day, the wound was perfectly healed, the ear was perfectly dry, and the dressings were removed permanently. On April 16, the ear had not discharged since the operation; the scar over the mastoid was normal; and the hearing for the watch, in the operated ear, was 10/30.

Since then, his ear has not troubled him, and the hearing remains as acute as in April. I removed, as soon as possible, the posterior turbinal hypertrophies, and reduced the inflammation in his nose and throat. I saw him in January, 1900, and up to that time the ear had not relapsed.

The result of operation in this case was not an extraordinarily fortunate one. Similar results may be attained with regularity, provided that the operation be thoroughly done, the parts thoroughly disinfected and properly dressed, each time with complete antiseptic precautions, for chance cuts no figure in the healing of wounds made for the relief of pyogenic infective diseases.

Two cases of acute purulent otitis media, in which no operation was undertaken, made a profound impression on me some years ago. Both patients were in vigorous health until attacked by the aural inflammation. Both were exposed to cold after the disease had been running about ten days. One developed typhoid symptoms immediately and died, it was said, of typhoid fever. The other died suddenly on the morning of the day appointed for the mastoid operation. Both lives could have been saved by different management.

In the case of M. O., exposure to cold and fatigue had an evil effect on the otitis. But my previous experiences with similar cases that had not been exposed to cold or fatigue were not very different. Many such might be cited in which bulging of Shrapnell's membrane and swelling at the tympanic ring occurred early, which were treated by the most approved non-operative means advocated by the recognized authorities, but without satisfactory result, and in which, after unnecessary delay and loss of strength, the radical operation became essential to the patient's recovery. In the light of these confessions, it must be evident that I have been conservative in accepting the teachings of experience. But it is plain to me now that the earlier the diseased regions are opened and disinfected, the more speedily will the cure be wrought, and the more safely.

2. Persistent Tenderness over the Mastoid Process.—Persistent tenderness over the mastoid process is a symptom of an otitis having important proportions. It is an indication for the radical operation, in both acute and chronic otitis media. In some such cases we find very little pus. There are otologists who object to a mastoid operation unless one may be confident of finding pus. If by that they mean to imply that there must be more than a few drops of pus in the antrum before they will consent to operate, I can not agree with them. As before stated, we find in purulent otitis media the mucous membrane of the middle ear in a state of fungous granulation, and we find caries of the bony walls of the middle ear. Both of these pathological conditions are incited by infective micro-organisms; and in both the existence of pus may not be very evident on cursory examination. Nevertheless, in order to cure such states of mucous membrane, and to check the progress of the caries, and to remove the infective organisms from the chamber of the middle ear, an operation that penetrates to and eradicates all of the disease must be undertaken. We should not expect other measures to succeed. Our duty to operate, therefore, is quite as great before an abscess has formed as it is afterward.

3. Swelling of the Soft Parts over the Mastoid Process.—The mastoid antrum should be opened in suppuration of the ear whenever swelling of the tissues over the mastoid process is observed. In a certain percentage of cases, incision and drainage of the superficial abscess is followed by recovery. This fact makes it less easy to convince an important body of general practitioners that it is not sufficiently effective. Ten years ago I was willing to handle certain cases in that way. Some of the patients were restored to health after a longer or a shorter period; but in a number of them the radical operation had to be done before the patient could recover. Among those cases of imperfect primary operation was one in which the sequel was disastrous; for my patient subsequently developed a cerebellar abscess, from which he perished. The intracranial complication did not arise until nearly two years after the first operation; but it is certain that had a radical operation been done in the beginning he would not have died as he did.

Mastoid abscesses are due to the spread of infection from the antrum and cells. In order that the infectious agent may reach the periosteum, the intervening bone need not be carious, for it may pass to the exterior through the veins, or the pores in the bone, or the masto-squamous suture. When an aperture through the external table of the mastoid is found, it should never be assumed that further operative interference may be omitted. And, also, when the external table of the mastoid process appears to be in good condition in these cases, we must never imagine that a thorough operation is not essential.

Swelling of the soft parts over the mastoid process, without abscess, is also an indication for an early operation. Such swelling may be dissipated, in certain instances, by non-operative means; but it is not probable that the infective agent may be driven from the field in that way. It is especially important that the radical operation be performed early in cases of chronic suppuration of the ear with swelling over the mastoid. Subsidence of the swelling in such cases can never signify that an adequate impression has been made on the disease, unless the improvement has been brought about by measures that are distinctly more effective than the usual local treatment.

4. Granulations and Fistulæ in the External Auditory Canal.—Granulations and fistulæ in the auditory canal external to the drum-head are indicative of caries in the walls of the middle ear. The discharge in these cases is more or less offensive. The extent of the carious process is not indicated by the objective, much less by the subjective symptoms. And no variety of treatment less heroic than a thorough mastoid operation offers any prospect of recovery. The following history of a case of this sort illustrates the various points commonly observed:

G. F., 9 years of age, was brought to me on account of a chronic offensive discharge from her left ear. The first purulent discharge from the ear occurred when she was seventeen months old. In 1893, she was operated on at the Manhattan Eye and Ear Hospital, and some dead bone removed through the auditory canal, I suppose, for there was no scar over the mastoid. She was under treatment until 1896. The ear had discharged offensive pus for one year when she was brought to me. For a considerable period, her general health had been poor; she was listless, and complained of frontal headache. The ear was discharging freely; and from the upper wall of the auditory canal near the drum-head projected a large granulation. There was neither swelling nor tenderness over the mastoid. At this examination in December, 1899, a large adenoid was removed from her nasopharynx.

A few days later, I attempted to anesthetize this patient; but, owing to her feeble condition, the unavoidable presence of food in her stomach, marked irritation of the bronchial tubes produced by the ether, and the subsequent depressant action of the chloroform, which was finally substituted for the ether, the child's symptoms became so alarming that I was compelled to postpone the work on her ear until another time.

During the following month, she was given iodid of iron and nux vomica. On January 10, 1900, assisted by Drs. C. J. Strong and M. C. Twitchell, and in the presence of Prof. E. D. Fisher, the patient was chloroformed, and I opened the mastoid antrum, which was found under about 1 centimeter of firm bone. There was a small quantity of pus in the antrum; the mucous membrane of the various chambers of the middle ear was in an advanced state of fungous granulation, and the walls of the antrum and cells were carious. Quite an extensive excavation was required to eradicate all of the disease. Very large granulations were removed from the tympanum. The malleus was extracted, and I intended to remove the incus, but it was missing. Nearly all of the posterior wall of the auditory canal was removed, and it was necessary to use the curette freely on the superior wall of the canal. I did not find that the roof of either the tympanum or the antrum had become carious. Finally, the entire region was thoroughly disinfected and dressed antiseptically.

Dr. Strong made all the subsequent dressings, and I did not see the patient again until five weeks after the operation. Then I found the wound entirely healed and the ear dry. The general condition of the child had improved greatly. My object in referring to this case is especially to show how dangerously extensive the middle-ear diseases may be, and yet give rise only to symptoms that are commonly regarded as insignificant.

5. Persistent and Relapsing Fistulæ behind the Auricle.—Persistent and relapsing fistulæ behind the auricle should be cured by a radical operation. They point to the existence of caries of the walls, and an infected state of the mucous lining of the tympanum, antrum and cells. Fistulæ that discharge for a time and close for a period are perhaps more likely to be followed by sinus-thrombosis, or some other intracranial mischief of a dangerous character than are others that remain open continuously. The indications for early operation seem clear.

6. Persistent, and Especially Offensive, Otorrhea.—Persistent and relapsing otorrhea, especially if offensive, ought to be checked by thorough removal of the underlying infective condition in the middle ear. Failure to cure otorrhea by radical operation will be observed rarely, if the work be done thoroughly, and if the wound be kept surgically clean until complete healing has taken place. There may be cases of purulent otitis media that are incurable. There are cases that will not yield to one operation, because all of the disease and all of the infective material may not be removed at the first attempt. The cases that prove to be incurable, and those that prove to be difficult, are either cases in which the infection has eaten its way slowly along for years without any very marked outbreaks, like a smouldering fire in the forest, or they are cases in which the infection is intense, and the attendant indifferent to the dangers of delaying operative interference.

In the winter of 1898, Dr. W. N. Platt, of Shoreham, Vt., sent me a patient who had been under treatment for insane delusions at the State Asylum at Waterbury, Vt. She had a chronic otorrhea, which the doctor conjectured might have had some etiological bearing upon her mental state. The only local symptoms existent when I saw her were a purulent discharge from the ear and slight tenderness over the mastoid process. I operated on her at the Mary Fletcher Hospital, at Burlington, Vt. I found the usual degeneration of the mucous membrane of the chambers of the middle ear. The patient made a satisfactory recovery from this operation, and then her ovaries were removed. The combined results of these operations were good in every way; but inasmuch as the laparotomy succeeded my work so shortly, the psychological value of the operation on the ear was necessarily obscured. However, it is interesting to know that the result obtained was not fugacious. Under date of Feb. 24, 1900, Dr. Platt wrote me as follows: "I had a report from the patient that you operated on for disease of the antrum and cells, last September. At that time, both her mental and physical conditions were good—the normal psychical life perfectly adjusted."

I have referred to this case especially because, so far as I know, the chief reason for removing the disease from the ear, namely, to restore the function of the mind, was unique.

Influenced more or less by the outcome of this case, Dr. George S. Bidwell, of Waterbury, Vt., formerly assistant physician in the state asylum, referred Mrs. Charles H. N. to me for a similar operation. I operated on her at the same hospital in the summer of 1898. The same local symptoms were present as in the other case, and I found in the chambers of the middle ear similar pathological conditions. Under date of Feb. 21, 1900, Dr. Bidwell wrote me as follows respecting this patient: "She had never been adjudged insane, and when she came to you she was able to preside over her children and household. At the time she came, she complained of a strange feeling in her head—that is a term often used by melancholic and maniacal patients in the incipient stages—and confusion of ideas. This confusion was so marked that she was hindered in her household duties. She was annoyed by, and complained of, it. I did not like these prodromes. The otorrhea offered a clue. You restored her. What might have developed in her case we can only conjecture. I firmly believe more serious mental disturbances might have supervened. All abnormal mental disturbances above referred to were relieved by the operation, and four weeks ago she was well, in good spirits, and happy."

It has been suggested that persistent offensive otorrhea should be treated by removal of the malleus and the incus. That is very good as far as it goes. The fact is, however, that if we confine our attention to so narrow a view of the pathology of mastoid disease, we shall fail to relieve many patients who may have caries of the ossicles, but who have at the same time that which is more important, namely, caries of the walls of the antrum and cells. There can be no reasonable doubt that the malleus and the incus should be removed in a certain number of cases of chronic otorrhea, but, as a rule, their removal should be a step only in the radical mastoid operation.

7. *Sudden Marked Diminution, or Absolute Cessation,* of a chronic otorrhea is a symptom of great significance. It should be regarded as the signal that the infection has attacked, or is about to attack, a vulnerable part. It is a command to operate in the most thorough manner, with the least possible delay. In such cases the sigmoid sinus ought always to be explored.

THE RADICAL MASTOID OPERATION.

Macewen, in his classical treatise on "Pyogenic Infective Diseases of the Brain and Spinal Cord," has discussed the radical mastoid operation in the most satisfactory manner. Experience in the operating-room and at the dead-house has demonstrated beyond a doubt, to my mind, that his advice respecting the operative management of mastoiditis and its complications is perfectly trustworthy. It would be impossible for me to add anything thereto. But it will not be amiss to refer to the fact, so frequently forgotten, that the object of the mastoid operation is not to drain the inflamed chambers of the middle ear. The object of the operation is to remove the disease. After that has been accomplished there will be nothing to drain away. In the class of cases under consideration, it is necessary to remove the disease from every recess to which it has penetrated. Not only should the antrum and the cells be freed of the infection, but the tympanum should always be thoroughly curetted, and the malleus and the incus should be removed when they are in a state of caries. Sufficient bone must be cut away to give the operator an opportunity to ascertain the precise condition of the various parts. Objection may be raised against this doctrine on the supposition that such radical invasion of the middle ear will prove disastrous to its function. So far as may be compatible with the well-being of the patient, I agree that the integrity of the ear should be conserved. But the handling which I have advised for the tympanum, however rough it may appear to be, does not necessarily injure the hearing. Whenever the ossicles are so diseased that they must be removed, we shall find that the function of the ear had been destroyed some time before that operation was undertaken. Repeatedly have I demonstrated the fact that the most thorough curetting of the middle ear is not incompatible with the preservation of acute hearing. The following history of a case upon which I made that operation twice within the year is apropos.

H. W., 14 years of age, was seen in consultation with Dr. R. N. Disbrow, on Feb. 21, 1899. During the two years preceding, he had had recurrent attacks of suppuration in his left ear. The discharge had ceased each time after a little, and had never been accompanied by much pain. On February 12, the discharge recurred, and the ear was painful. On the 19th he consulted his physician. On the 20th, he had a chill and his temperature rose to 104. I saw him in the afternoon of the next day. There was some purulent discharge from the left ear; the external auditory canal was free; there was a small perforation through the drum-head, and marked bulging of Shrapnell's membrane. There was no swelling over the mastoid, nor was there tenderness excepting over the knee of the sigmoid sinus. The internal jugular vein was not involved. Mental hebetude and photophobia were well marked. The patient was chloroformed, and I made a free incision through the membrana tympani, but did not evacuate much pus. After the incision had been made, a well-marked transient spasm of the left side of his face, especially about the lips, was noted. On Feb. 22, 1899, assisted by Drs. Disbrow, Booth, and E. M. Alger, I opened the mastoid antrum. It contained pus and fungous granulations, as did also the tympanum. The tympanum and the antrum were curetted very thoroughly, until I was satisfied that all of the disease had been removed. While curetting the aditus, twitching of the same side of the face was observed once. Following up the disease, I was lead to open the sigmoid groove at the knee, and evacuated thereby about two drams of foul-smelling pus.

Ophthalmoscopic examination immediately prior to the operation showed the media clear and the fundus normal in each eye.

I did not see the patient again until Oct. 27, 1899, when his father brought him to my office, having already visited the Eye and Ear Infirmary, where he had been advised very properly that another operation was necessary. I found the ear discharging pus, and there was a fistulous tract opening at the upper end of the mastoid scar and leading down to the antrum. The wound had become infected, and had never healed.

On Oct. 30, 1899, at the Metropolitan Throat Hospital, assisted by Drs. C. J. Strong and John Drew, and in the presence of Dr. E. M. Alger and others, I operated again on this patient. The antrum and the tympanum were full of granulation tissue and cholesteatomatous masses. Very thorough curettage of the tympanum and antrum cleared away all of the disease. The only invasion of the bone consisted in a small spot of caries in the lower portion of the mastoid process.

On November 2, I redressed the wound, and removed a large adenoid from his throat. On December 2, all dressings were permanently removed. There was a large polypus projecting from an aperture in the drum-head. By December 6 the last vestige of the polypus had been destroyed. About December 20 he was discharged cured. There had been no discharge from the ear since the polypus had been exterminated. The hearing for the watch in the left ear, the tympanum of which had been curetted twice within the year, was normal, or for my watch, 30/30.

The dangers incident to the radical operation on the mastoid in uncomplicated infectious diseases of the middle ear have been grossly exaggerated. Irregularities in the anatomy of that region have been supposed to be common enough to endanger the important closely adjacent parts, and even the patient's life, during the operation. Such suppositions are purely fanciful. It is true that the operator may wander from the course which he should follow; but it is futile to ascribe the error to an alleged anatomical peculiarity of the patient. Moreover, even after thorough eradication of the infective process, the most radical antiseptic measures are essential. Efforts to secure and to maintain thorough disinfection of all the parts involved must not be relaxed until the wound has healed perfectly.

In conclusion, permit me to remind you of the importance of diseases of the nose and throat as predisposing causes of suppurative diseases of the ear. The existence of hyperplasia of the lymphoid tissue in the vault of the pharynx tends to provoke acute suppuration in the middle ear, and provides a condition favorable to recurrences of the attack. Attention has been directed to this fact by numerous writers, but the lesson has not been learned even by many who are pretentious of being known as specialists in otology. Among close observers there can be no doubt that, in patients under 15 years of age, an adenoid exists in almost every case of suppuration of the ear. To have any etiological bearing, however, it must promote a chronic congestion of the nasopharynx. In order to serve that purpose, the growth need not be very large, although the greater the adenoid, the more likely will it be to cause trouble in the ears.

Associated with adenoid growths, we commonly encounter a hypertrophy of the faucial tonsils. At the same time, a hypertrophic rhinitis, in which chronic dilatation of the submucous veins of the inferior turbinal body plays the chief rôle, is the prevailing obstruction in the nasal passages.

Posterior turbinal hypertrophies, likewise, obstruct respiration through the nose, and they, too, should be enumerated among the predisposing causes of purulent otitis media.

In view of these facts, it must be obvious to all that rectification of abnormal states of the nose and throat is an indispensable preliminary to the prophylaxis of intracranial and intravenous complications of infectious pyogenic diseases of the ear.

[For Discussion, see The Journal, xxxiv, p. 1263.]

58 West Fortieth Street.

THE CEREBRAL NEURONS IN RELATION TO MEMORY AND ELECTRICITY.*

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Professor Heger,[1] of Brussels, gives an account of experiments made on animals to determine the conditions of the brain cells, during various conditions of rest and stimulation, and concludes that "an important property of the cerebral nerve cell is its variability in reaction as regards its cell body, its processes, and its epidendritic granules. Changes in all three portions may co-exist or occur separately under different conditions, the further significance of which is important, and demands investigation." The nervous system reduced to its initial stage may be represented by two elements, a nerve cell, and a conducting tube, and it is the association of these two elements, which constitutes nerve centers and nerves. *Punch* tritely remarked, "What is matter never mind, what is mind, that's the matter." Although no relation of identity or analogy subsists, between mind and matter, a close relationship may be shown to exist between mind and force, or between mind force and nerve force. Undoubtedly mental activity may be excited by nerve force, and such is found to be the case in every act in which the mind is excited through the instrumentality of sensorium. The will can develop nerve force, and as a nerve force, can develop mental activity. There is in fact, a correlation between these two forces, fully as intimate as that which exists between nerve force and electricity. Maudsley is of opinion, there is memory in every nerve-cell, and indeed in every organic element of the body. The organic registration of the results of impressions upon our nervous centers, by which memory is established, is after all the very basis of mental life, and the cells and nervous tubes, associated in many ways, constitute the nervous system in its entirety. As life progresses tissue formation changes materially, and we gradually observe the outward as well as the inward manifestations of declining activity. Such is observed in the loss of hair, and the bald scalp, in the decay of teeth and consequent defective power of mastication, so also in the defective auditory process, as well as in gradually impaired vision and memory. Such evidences are undoubted in their character, and positive proof, should such be wanting, of an abnormal decline in systemic power, coincident with advancing years. While these systemic evidences of change are in progress, it is reasonable to infer that nerves and nerve centers, the very motive power of the entire system, should also participate in some degree in those structural modifications, indicative of molecular change, and impaired functional activity. Recent discoveries in the line of nerve-tissue formation, have defined small cellular almost rod-shaped bodies, as components of cell nervous tissue, known as neurons, which take an important place in the elimination of nerve power, and contributing to the production of normal functional activity. One of the most interesting developments recently announced in Germany, France and America, is that nerve cells were capable of movement, to such an extent as to actually alter their original relationship one to the other. In 1890, Wiederschein, a German physiologist, saw in the Leptodara Hyalina, an invertebrate, one of the entomostraca, the nerve cells of the esophageal ganglion move in a slow flowing fashion. This altered relationship almost molecular in character, may give a clue to a lessened functional activity and constitute the basis on which retardation rests. This constitutes the field of action, as to the therapeutic power of the electric current, which, as a known force, is still in its infancy. At the convention of the American Electro-therapeutic Association,[2] it was stated that static electricity causes contraction of the protoplasm, both animal and vegetable, excites nerve fibers, nerve centers, and nerve cells, to functional action, and to produce their separate effects, motor, sensory, secretory, sympathetic and vasomotor. The recent observation of Professor Herdman,[3] of the University of Michigan, is as follows: "That whenever a current of electricity traverses an animal body, the magnetic field resulting from the current and surrounding its path, must disturb in some manner the molecular and atomic activities that are going on in the tissues and fluids, through which the current of electricity passes, in fact, in such a manner as to rotate in some degree every molecule, so as to make it assume a different position from what it would if not thus acted upon," and draws the deduction, "that alternating magnetic stress is in some way related to quickened metabolism of tissue; that the magnetic energy goes through some sort of transformation, and reappears as physiological energy." During the past few years, in noting the results of failing nerve power, as indicated by functional inactivity, in tissues and organs generally, I have been more and more impressed with the vast importance of a thoroughly established balance of power in each structure of the human body and particularly with reference to the nervous system. In the examination, no organ should be passed over casually, or even section of the body, as difficulties creep up almost silently and diseased conditions become established prior to particularly marked external indications of importance defining the same. The brain is the battery of the body and as diversified in its peculiarities and manifestations as the facial expression of the Genus Homo, no two of the entire human species being exactly alike. In the examination of nerve power by electro-neurotone currents. I noted on several occasions after a few weeks' application quite a change in intellectual activity, as evidenced by improved memory. The currents were passed through the base of brain chiefly, by applications to the parotid regions on either side of the neck, and in the most casual manner, not in the least anticipating this practical result. The individuals operated on were over 60 years of age, and the improvement of memory was of such a character as in my humble opinion to be worthy of the closest scientific inquiry.

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* Read before the Royal Society of Canada, May 30, 1900.

[1] British Medical Journal, May 27, 1899.

[2] The Times and Register, Dec. 29, 1894.

[3] Electricity, April 18, 1900.

REPORT OF TWO CASES OF AFEBRILE TYPHOID.

CHAS. J. WHALEN, M.D., LL.B.,

CHICAGO.

I presume no one thing has aided us so much in the diagnosis of typhoid fever as the temperature chart. Since the use of the clinical thermometer the temperature has come to be the indication for diagnosis, treatment and prognosis. All the old and recent authorities place great emphasis on this symptom of the disease. Indeed, the temperature in typhoid is so absolutely essential for the estimation of each individual case that no scientific physician would treat one without regular measurements of the temperature.

It was formerly considered that typhoid fever had to be accompanied by elevation of temperature, and the rule that at some period of the disease the temperature is raised was supposed to be without an exception. That such a thing as afebrile typhoid exists has been called to the attention of the profession by Liebermeister. I shall not enumerate the symptoms of this disease, but I wish to show that we may have absence of rise in temperature and yet the case be one of typhoid fever. Within the last few years I have seen patients with undoubted afebrile typhoid, and this has led me to give the subject consideration. My investigation has convinced me that the disease does occur in an endless number of types, and in this connection I desire to call attention to two cases of the afebrile form which came under my observation during the last sixteen months.

CASE 1.—J. E., a clerk, aged 23, whose previous health had been excellent, came to me Sept. 10, 1899, complaining of lassitude, headache, inaptitude for work, constipation quite pronounced, and loss of appetite. The above symptoms had been present for five days, and there was no temperature, but some splenic tenderness. He was given a cathartic with instructions to call again within forty-eight hours. At the end of this time he complained of having had a severe epistaxis on the morning of the sixth day, no temperature, the tongue dry and coated, and tenderness over the spleen more pronounced. I found both the diazo and Widal reactions positive, and this at once confirmed my suspicion of typhoid fever. On the eighth day there appeared a crop of five distinct rose spots. On the tenth there was quite marked iliac tenderness and meteorism present; the pulse was soft and beating 100 per minute. The patient was put to bed, where he remained for three weeks, and during this time his temperature was taken four times daily and the highest degree recorded was 99. At the end of this time the patient was told that he might go home, but that he was to follow out instructions regarding diet, exercise, etc. On arriving home he disobeyed and partook of a large meal, walked several miles, spent the day and evening in visiting friends, and the following day felt weak and exhausted; on the next day he had headache, no desire for food and felt bad generally. He continued to grow worse, and, five days afterward I found him with mental torpor and dulness, his tongue and lips dry, a new crop of rose spots on the abdomen, and considerable meteorism present, with a large and tender spleen, temperature 102 and pulse 100. This patient, in his relapse, ran a typical course of severe typhoid fever, his temperature pursuing the step-ladder rise and continuing high for four weeks, though he eventually recovered after being in bed two months.

CASE 2.—July 8, 1900, John R., a schoolboy, aged 17, consulted me because of lassitude, intense headache, weakness and gradual loss of appetite, nervousness, inability to sleep and occasional chilliness; he also complained of marked constipation. I found his tongue heavily coated, pulse 106, soft and slightly dicrotic, temperature normal, some iliac tenderness and meteorism present, a crop of rose spots on the abdomen and thorax, Widal and diazo reaction both positive. By July 20 he had improved generally, meteorism had nearly subsided, and he was beginning to crave food, no elevation of temperature had been noted, although it had been taken four times daily after the first visit. From this time on the patient gradually improved, and at the end of three weeks after first consulting me, barring a slight weakness, he was apparently well.

I was taught that typhoid fever had a characteristic course, a step-ladder rise in temperature continuing high for a period ranging from two to four weeks, declining gradually during the third and fourth. I am convinced that we may have genuine typhoid without any rise of temperature. Therefore, the typhoid of to-day is not the typhoid of von Niemeyer, Trousseau, Flint and others, for they portrayed a disease having a fairly constant train of symptoms, a fever with a characteristic course and other equally important conditions varying. Certainly ambulatory and afebrile types of the disease must have been very rare or else were not diagnosed in the practice of the older authors.

34 Washington Street.

A Hospital Steamer for the Philippines.—Major John S. Kulp, surgeon U. S. V., has recently reported the results of a voyage from Manila, on the army transport *Pennsylvania*, to bring sick men from the outlying islands to the general hospitals in that city. The vessel, a Philadelphia built, tripple-expansion, single-screw iron steamer, of 3343 tons capacity, left Manila Oct. 5, 1900, with a small cargo of subsistence and quartermaster's supplies and accommodation for the return of 160 sick soldiers. Everything necessary for the comfort, welfare and convenience of the sick was furnished promptly from the medical supply depot at Manila. The bunks were iron-pipe frames with woven-wire mattresses, all on the main deck, well ventilated and high above the water line. The vessel called at eighteen ports and brought off 155 patients, returning to Manila November 11, after a voyage of 2332 miles. Thirteen of the patients were affected with diarrhea, 46 with dysentery, 19 with malarial fever and 10 were sufferers from gunshot wounds. No death occurred during the trip, although many of the cases when received were of a grave character. In every case there was a marked improvement, and many were practically well by the end of the voyage. The object of the voyage was to determine whether or not it was practical to make use of one of the inter-island transports for the transportation of the sick during her regular trips. The result from an administrative standpoint was unsatisfactory. It proved that a ship devoted solely to the interests of the medical department was a necessity. Although the cargo was insignificant in amount the voyage was prolonged one-third on account of the delays caused by its delivery. Col. Greenleaf, chief surgeon of the Division of the Philippines, states that authority has been received from the U. S. secretary of war to purchase a light-draught ship for use as an inter-island hospital transport, and that measures are now on foot to effect this object, which will solve satisfactorily the question of furnishing the provincial military hospitals with supplies and removing their sick when necessary.

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SATURDAY, FEBRUARY 2, 1901.

THE DIVISION OF FEES.

Commercialism is not a word in good repute in connection with the practice of medicine. Not that it is wrong for a physician to make money if it is done honorably; nor is it beneath the dignity of an ethical member of the medical profession to apply honorable business principles in obtaining just remuneration for services rendered; but it is wrong, and degrading, for him to subordinate all he may do to commercialism. The making of money is the mainspring of commerce, but medicine, in its scientific as well as in its altruistic ideals, has a higher and nobler aim. The laborer is worthy of his hire, but in medicine the latter is only an incidental, not the ideal, end and aim. If it were, our widely-uttered claims of being a liberal profession are false, and a large proportion of what we may call the non-scientific portion of medical literature, including most addresses to graduating classes in medicine, and to societies, is the veriest talking for effect. Sometimes it would seem that there is too much of this kind of literature—that we protest too much in self-praise—but it keeps us committed to our higher ideals and in that way does good.

If, on the other hand, we come out plainly with the admission of purely mercenary motives in the practice of medicine, we misrepresent our profession, for however much we may deny it, should we care to, the practice of medicine is necessarily a self-sacrificing profession, and at best its average rewards are below what equal talent and industry bring in other occupations. It has, moreover, its scientific side which can not be ignored, and a system of ethics published to the world as a rule of conduct which is throughout antagonistic to any purely commercial estimate of the profession of medicine. We can have, therefore, only the alternative of still publicly repudiating commercialism or of giving up our best professional traditions, which is impossible. Even should we profess to do this, we could not do so in practice, and would not if we could. There is, therefore, no choice in the matter as regards the practice of medicine generally; the question only remains as to the course to be followed in special cases, and as to certain practices that tend toward questionable business methods.

One of these is the giving of commissions. It might naturally be supposed that this is not a debatable question, that such a practice is so opposed to the traditions and to the ethics of the medical profession that there could be but one opinion—and that emphatically against it. That this supposition is not a correct one is evidenced by the facts that: 1, a prominent physician not long ago read a paper before a medical society, in which he advocated a division of the fee; 2, a professor in a leading medical college is reported to have said in a medical society last week, when this question was being discussed, that he was in sympathy with the idea; 3, it is openly charged that certain men are to-day giving commissions to physicians sending them cases. It therefore seems necessary to consider the matter and let it be known whether such a practice is recognized as right or whether it shall be condemned. Therefore, if it is to be condemned, let it be done with emphasis, and not with an ambiguity of expression that will leave a doubt as to what is meant. On the other hand, if it is decided that it is right, let it be known so that we may all act accordingly. If it is right for one it is right for all. And let the people know it, for the patient is certainly interested in the matter and ought to have a clear understanding of the arrangement.

Any receiving of commissions from surgeons or consultants for cases referred to them, without the knowledge of the patient, would be bringing into the practice of medicine methods that would be degrading even in commercial life. It is evident, however, that no patient is likely to permit himself to be exploited in this way if he can help it, and an understanding as to sharing the consultant's fee must inevitably be a secret between him and the practitioner. Thus the transaction, reduced to its simplest expression, means the introduction of the lowest and most disreputable of business methods into the practice of an honorable profession. The right of the attending physician to remuneration for his services does not enter into the consideration of the question. Whatever he is entitled to he should demand and collect from the patient.

That a surgeon sometimes gets a fee quite disproportionate to the small remuneration received by the attending physician is no argument for the division of that fee. While it is unethical to the last degree to make extortionate charges, the wrong is not made right by another coming in and taking part of that which has been obtained unrighteously, provided it has been so obtained. But whether it is right or whether it is wrong can be very easily decided, for the question simply resolves itself into this: Does the patient know of the transaction? If so, then it is legitimate and ethical; if not, it is collusion.

This question has been taken up by the newspapers and, as usual, the medical profession has been misrepresented, misquoted, and maligned. To read the lay press opinions one would suppose that this commission business is a common practice, but we protest that it is not. What little has been done has been done secretly and under cover, and by but a very few. That it has been done, and by those who claim respectability, can not longer be denied, and there is no use in treating the matter ostrich fashion, for shutting our eyes to it does not prove its non-existence. It is hoped, therefore, that those societies which do take it up will meet the question fairly and squarely, so that there may be no misunderstanding in the future. Let it be known whether the medical profession is merely a money-making trade, adopting the methods, good and bad, of those others with whom money-getting is the sole aim, or whether it is an honorable profession with a well-earned reputation for philanthropy and good deeds, which its members do not propose it shall lose.

MEDICINE OF THE NINETEENTH CENTURY.

Notwithstanding the power that the discovery of the uses of steam and electricity has given to the race; notwithstanding the happiness that education and improved ethics have brought to humanity, the greatest gift that the nineteenth century has given to man has been the discovery of scientific laws that lead to health; laws by the knowledge of which the plague and the diseases of other countries have been kept from spreading through the community, and laws which have taught physicians how to speedily ease suffering and to save and lengthen life.

A masterly and comprehensive syndicate article on "Medicine in the Nineteenth Century," from the pen of Dr. Osler, has just appeared. In it he sums up the discoveries and the advances of medical science in the last one hundred years, and to the layman his lucid descriptions of progress can not but be a revelation.

At the beginning of the last century the theory that "aqueous" and "dry humors" were the seat of disease was still taught. In 1801 Bichat, a young French physician, taught that the seat of disease was not in the organs themselves, but in the tissues of the organs, and thus gave an impulse to the study of morbid anatomy. Laennec discovered the art of auscultation, and his contributions to the study of the diseases of the lung and heart really laid the foundation of modern clinical medicine. Bright's researches on the kidneys and the differentiation of the fevers into typhoid, typhus, relapsing and yellow were the beginning of the original work. Once the idea of scientific investigation took the place of the philosophic discussion of theories, the light began to break, and as it lit up first one source of disease after another, we, who look backward in review, can see how dense must have been the darkness of ignorance before the present century.

In the growth of specialism, while there has, perhaps, been a loss in breadth and harmony, there has been the compensation of greater accuracy in the application of special knowledge. This has been particularly valuable in the diseases which are peculiar to women, especially to accidents incident to child-bearing, and in the great improvement in the treatment of insanity.

At the beginning of the century there were but three medical colleges in the United States and only two general hospitals. It was the custom of practitioners to take students as apprentices, and the well-to-do finished their education abroad. After 1830 a remarkable change took place, owing to the leaven of French science brought from Paris by American students. Between 1840 and 1870 there was a great increase in the number of medical schools, but the standard was low and the work poor, from the multiplicity and rivalry of ill-equipped institutions. However, the evolution of the medical school that followed the reformation, begun in 1868, by raising the standard over the whole country, was one of the most remarkable phenomena in the history of medicine in the United States.

Dr. Osler calls attention to the fact that sanitary science, or hygiene, is one of the bright spots of the century. A knowledge of the conditions of disease, and the means of transmission together with the culmination of the art of preventive measures, has made smallpox, as a dangerous disease, a thing of the past. It has effectually kept cholera and the bubonic plague from spreading in the country. It has restricted yellow fever to its original localities, and has reduced the death-rate of typhus from 1228 per million—in England sixty years ago—to 3 per million to-day, while it has so conclusively proved the exact precautions that must be observed to prevent typhoid and tuberculosis, that it is only through gross carelessness and wilful lack of sanitary measures that they can spread.

But as he remarks: "Preventive medicine was a blundering, incomplete science until bacteriology opened unheard of possibilities for the prevention of disease." The brilliant overthrow of the hitherto much-discussed theory of "spontaneous generation," by Pasteur, Tyndall, Koch and Cohn, and the tracing of each disease to its bacteriologic origin has been the bright triumph of the century. It has led to a knowledge of wound infection, which has served as the foundation stone of the science and art of modern surgery. It has been the means of determining definitely the cause of leprosy, so that plague may never again obtain a foothold. It has reduced the aggregate death-rate of diphtheria fully 50 per cent., since the discovery of antitoxin, and concerning that most deadly and insidious of human diseases, which Dr. Oliver Wendell Holmes called the "white plague"—tuberculosis—it has taught the origin and means of prevention, that may, if faithfully followed, lead to the eradication of the disease. In summing up the revelations that have been made concerning contagious disease, through bacteriologic investigation, Dr. Osler outlines the fields of investigation that have not yet been worked with success. The cause of contagion of the exanthemata, measles, scarlet fever, chicken-pox, smallpox, and of whooping-cough, though yet unknown, he thinks may be of bacterial origin, but that the special bacteria may be too minute for any known microscope to reveal.

The last word of the century on these lines is concerning serum-therapy, which experimenters are trying for every contagious disease, with effects that will probably modify present lines of treatment within the next ten years. While there has been a remarkable diminution in the prevalence of a large number of all the acute infections, "pneumonia," says Dr. Osler, "not only holds its own, but seems to have increased in its virulence," while concerning venereal diseases, which continue to embarrass the social economist and to perplex and distress the profession, he recommends legislation.

The brilliant experiments of the summer of 1900 on the Roman Campagna, proving conclusively that malaria can be communicated by mosquitoes, and solving at once the mystery of marshy lands, the hot season and the night air, is almost a spectacular ending to the century's work and opens an entirely new field for investigation concerning the relations of insects and animals to human diseases.

One of the striking features of modern medicine, as Dr. Osler points out, is the tendency on the part of physicians to give little or no medicine and to substitute attention to diet, exercise, rest and climate for drugs. And yet the century never witnessed a more perfect and all-abiding faith in drugs on the part of the layman than at its close. But as this man of wisdom concludes, faith is as ever a large element in the success of the practitioner, and, as Galen said, "confidence and hope do more than physic."

THE HEREDITY OF DIABETES.

Despite the earnest study that has been devoted to the subject of diabetes in recent years, the most that can be said with regard to the nature of the disease is that it is the expression of some as yet obscure derangement of metabolism, in consequence of which carbohydrates are not properly assimilated and consumed in the body, and appear in the blood and the urine as glucose. While the affection is sometimes observed in association with organic disease, more especially of the brain, and less commonly of the pancreas, no gross lesion is appreciable in the majority of cases. The derangement of function must, therefore, be referred in many instances to structural, textural, cellular or nutritive alterations, and a mutual relation exists between this assumption and the fact that the disease is sometimes transmitted by heredity. It is estimated that the latter takes place in about 25 per cent. of the cases. Thus, Thomas Oliver[1] cites an investigation by Weil of 90 members of a family through four generations, of whom 21 were certainly and 13 doubtfully diabetic. He also relates of an applicant for insurance that the father, three brothers and one sister had died from diabetes. Other instances are on record in which seven and eight children, respectively, in one family have exhibited diabetes. In a family reported by von Noorden, ten members of four generations were diabetic. J. H. Pleasants[2] has recently reported six cases of diabetes in two brothers, two sisters, an uncle and a great-uncle, among 24 descendants of a common progenitor, of whose urine examination was made in all but one case. Investigation, with the object of shedding light on the question of conjugal diabetes, into the condition of those who had married into the family, yielded only negative information.

A study of the reported cases of diabetes in which heredity appears to have been an etiologic factor discloses certain peculiar features of the familial type of the disease. It is often observed that the disease occurs in an uncle, an aunt, or a cousin, while the parents escape. This may be conveniently spoken of as the "collateral inheritance" of diabetes. In the same way, a grandparent may be diabetic, while the parent escapes. When successive generations are affected, there is a tendency for the disease to develop at a progressively earlier age. When more than two members in the same generation are diabetic, there is a tendency for the disease to appear at approximately the same period of life. While hereditary diabetes developing in the first two decades is often of a severe character, the cases developing later in life are generally of a mild type. In a certain number of cases the disease has appeared in the children prior to its occurrence in the parent. There is frequently a neuropathic tendency in diabetic families. Cases are recorded in which several children were diabetic, while the others suffered from various psychoses. Obesity is often a characteristic of families in which diabetes occurs.

INTOXICATION WITH CREOSOTE.

Creosote is one of the best of the many medicinal agents recommended for the treatment of pulmonary tuberculosis, and in view of the large scale on which it has been employed and the freedom with which it has been administered, it is indeed fortunate that its toxic effects are not more pronounced than they have proved themselves to be. The substance exhibits certain points of resemblance to carbolic acid, by which it is at times contaminated or wholly replaced, and it is possible that some cases of intoxication attributed to creosote may really be due, in part at least, to carbolic acid. Nevertheless, creosote is capable of toxic effects, and occasionally, as some cases recorded in the literature testify, there may be a marked idiosyncrasy to its action.

Creosote, though very pungent, is less escharotic than carbolic acid, but, taken in excess, it gives rise to nausea, vomiting, colicky pain, and diarrhea, with vertigo, obscurity of vision, depression of the action of the heart, convulsions and coma. The soluble sulphates are recommended as antidotes, and in cases of poisoning the stomach should be evacuated and ammonia and other stimulants administered. An instance in which the ingestion of a large amount of creosote on the part of a child was recovered from on the prompt institution of active treatment is reported by Dr. H. M. Hewlett.[1]

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[1] Lancet, Nov. 10, 1900, p. 1335.

[2] Johns Hopkins Hospital Bulletin, Dec., 1900, p. 325.

[1] Intercolonial Med. Jour. of Australasia, v, No. 10, p. 501.

A girl, 3½ years old, swallowed 2 drams of pure creosote, and immediately complained of abdominal pain. She was at once given a tablespoonful of olive-oil, but soon became unconscious. When seen, twenty minutes later, she was insensible, and the face was pale, the lips cyanosed, the respirations extremely shallow, and the pulse imperceptible. The eyes were fixed, the pupils contracted and immobile, and the extremities cold. The muscles were flaccid, and no difficulty was experienced in introducing a tube into the stomach and practicing lavage, about two quarts of warm water being used. The stomach was then washed out with two pints of strong solution of magnesium sulphate, about six ounces being left in the viscus. Strychnin, 1/25 gr., was injected hypodermically, and the patient was wrapped in blankets and surrounded by hot bottles. A rectal injection of extract of beef and brandy was also given. In about eight minutes after the stomach was emptied the color of the lips improved and the pulse became perceptible. In another ten minutes resistance was offered to the presence of the stomach-tube. The color was now good and the respirations full and regular. The pupils were still contracted, but reacted to light, and the extremities were warm. Improvement continued thereafter without relapse. Pain over the region of the stomach was complained of when a little white of egg and milk was swallowed a couple of hours later, but this was relieved by hot fomentations. Urine was not passed for many hours, and then presented a dark-brownish color. Subsequently the urine exhibited a watery-green and then a pale-yellow appearance. The first bowel movement also was dark in color and smelled strongly of creosote. There were no after-effects, and in the course of a few days the child was running about again and appeared none the worse for her dangerous experience.

MISSOURI'S CHIEF EXECUTIVE.

The *St. Louis Courier of Medicine* devotes a sarcastic editorial to the outgoing governor of Missouri, who appears to have been, from a medical point of view, about all that the chief executive of a state ought not to be. It expresses the opinion that the most sensible thing of which he has been guilty was his congratulations to the citizens, in his last message, that his term had nearly ended. As one of the dispensations of a kind Providence it may be noted that the new Governor of Missouri is a member of our profession, and if he is true to his antecedents the wind will be tempered to the shorn Missouri lamb.

JUDICIAL EUTHANASIA.

While a bill referring to the manner of execution of criminals was recently under consideration by the Indiana legislature, an amendment was offered to inflict the punishment of death by giving 15 grains of morphin in a glass of whisky. This motion failed, though it is reported to have received a full party vote. The Indiana murderers, "like maudlin Clarence in his Malmsey butt," would undoubtedly favor this mode of execution, but why this special zeal for euthanasia for criminals is such a prominent feature in modern legislation is not clear.

WATCH MEDICAL LEGISLATION.

It behooves the members of the medical profession, in the various states in which a legislature is in session, to keep in close touch with what is going on in regard to the regulation of the practice of medicine. In nearly every state more or less vicious medical legislation is being attempted. In Illinois an amendment to the medical practice act is proposed, in which these words occur: "Nothing in this act shall be construed to apply . . . . to any person who ministers to or treats the sick or suffering by *massage*, or by *mental* or spiritual means, without the use of any drug or material remedy." The object of this amendment can be readily seen. In those states where there is no committee officially appointed to represent the profession, such legislation as the above will be easily managed and the profession wake up, when it is too late, to realize the fact that laws have been passed that are detrimental alike to the people and to the profession. When this occurs, nine times out of ten it is the fault of the profession itself, a result of lack of organization and of apathy.

RELIGIOUS RITES FOR THE DYING.

A Roman Catholic paper calls the attention of physicians to the advisability of informing Catholic patients or their friends of their condition when it becomes critical, and in any event not allowing them to die before the church's last offices for the dying can be performed. It was possibly in view of something of this kind that led a Missouri judge to decide that it was the physician's duty to inform the patient of his hopeless condition. There are objections to the unqualified adoption of this course, as THE JOURNAL has already editorially pointed out, but the Catholic editor's recommendation has a much better medical sanction. As he sensibly remarks, the peace of mind that follows confession often causes a change for the better in Catholic patients, and the other rites, as some of us may have observed, may have the same effect. Whatever one's own religious views may be, there is good medical reason for respecting those of others, especially in such cases as these. It is not necessary to infer that such warnings are a practical death-warrant to the patient; for they may, on the other hand, be the means of introducing the most potent of therapeutic suggestions.

IS EXERCISE UNHEALTHY?

Falstaff's opinion, that it is better to rust than to be scoured to nothing with perpetual motion, is echoed to a certain extent by a physician who holds that exercise is unhealthy for men past 35 years of age. He has received a number of endorsements from individuals who, while not Falstaffian in all respects, endorse that hero's philosophy to this extent. Among them are cited Russell Sage, the financier, William M. Evarts, and others who have never exerted themselves physically when they could help it and believe themselves the better for this course. The American people, according to these authorities, are ruining their constitutions by too much activity, and we are told that we should adopt a more restful way of living, at least as regards physical exercise. It would be interesting to exercise one's fancy as to a state of society in which physical inactivity was the rule after 35; it would be a queer world, at least in this latitude. The notion is one of those one-sided ideas that sometimes find expression and are taken up and made the most of by the lay press. This one is comparatively harmless, since there are not many who will believe it, and fewer still who will be able to follow the teaching, as man is constituted and in present social conditions.

THE COCAIN HABIT.

The cocain habit in the South, which has been already noticed by The Journal, seems to be extending. Measures have been taken to stop the indiscriminate sale of the drug in some cities where the evil is most pronounced, and similar ones are advocated in others. The cocain habit is said to have already invaded some northern cities, though in none of them is it as general a vice as among the negroes of the South. In New York some of the physicians interviewed in regard to the habit and its prevalence claimed that medical students were particularly liable to become its victims, others gave quack remedies as the chief cause of its spread, and the mistaken popular notion that it is a cure for drunkenness was also credited as an agency. Men in thus attempting to conquer one tendency become slaves to another, or both, and their last state is worse than their first. It may be that the danger is overestimated, but it is well to be informed as to the possibilities. In any case the sale of cocain should nowhere be unrestricted; this drug as well as morphin should be only obtainable on physicians' prescriptions and careful registry be kept of all sales. Its present freedom of sale in most sections, to any and every one who asks for it, is a special danger that is the more inexcusable as cocain is a comparatively new drug and the vice has not acquired, like that of alcohol, a time-honored common law sanction.

VITAL STATISTICS AND REGISTRATION OF BIRTHS.

In the retiring message of the late Governor of Illinois there were a few recommendations on matters of medical interest. One of these referred to a defect in vital statistics that is perhaps not peculiar to this commonwealth, but is nevertheless one that calls for amendment. This is the more true since the medical profession is in some respects responsible though not altogether without excuse for its neglect. Any one reading the reports of deaths published in the Chicago lay papers would naturally come to the conclusion that the native stock is on the road to extinction, and that obstetrics forms no part of the medical practice of American physicians. Foreign-born midwives seem to be busy delivering mothers with largely foreign-sounding names, and only occasionally, or at least in very inadequate proportion, do medical men appear to have any share in the work. It was said at one time that a prominent and popular suburb, chiefly inhabited by the best American-born citizens, had almost no births reported from its precincts. Nevertheless, the younger generation somehow comes into existence, and in a reasonable quantity. The facts speak for themselves. The vital statistics in most of our states are practically worthless because they are incomplete. It is easier to get reports of deaths, as burial permits require them, but the fully as important event of a birth too often goes unreported simply because it is practically impossible under present conditions to enforce it. Governor Tanner's suggestion is practical in that it considered the need of offering some recompense to the accoucheurs for the trouble of making the report; without that it is likely that statistics will remain imperfect, as only the most rigid police regulation and oversight, such as are hardly compatible with our customs, would enforce the registration.

Medical News.

ARKANSAS.

Dr. James L. Goree, Pine Bluff, for many years president of the local board of health, has resigned.

Dr. Arthur B. Loving, Pine Bluff, has been appointed physician of Jefferson County for 1901, in succession to Dr. William A. Noel, term expired.

The State Legislature passed a law at its last session imposing a fine of $25 to $100 on any dealer found guilty of selling cocain except on the prescription of a physician or to a physician.

CALIFORNIA.

Dr. Thomas B. W. Leland, San Francisco, was appointed coroner of the city and county of San Francisco, January 16, vice Dr. R. Beverly Cole, deceased.

Six surgeons of the Emergency Hospital, San Francisco, were dismissed January 18, the reason given for the change being that the service and efficiency of the hospital would be benefited by limiting the tenure of office to one year.

Dr. Kinyoun's critics have caused a resolution to be passed by the state senate, by a vote of 26 to 8, requesting his removal by President McKinley on the ground of unauthorized quarantine of the state because of "alleged bubonic plague in San Francisco."

A consumptive immigrant from British Columbia, who arrived in San Francisco, January 22, was not allowed to land as he was afflicted with a communicable disease, and was indigent. He will be deported. This is the first instance of the kind in the port of San Francisco.

COLORADO.

Dr. John G. Keith, Leadville, has been elected physician of Lake County.

A brutal assault was made on Dr. Louis Auerbach, of Denver, by highwaymen, recently. His nose was broken and he may lose the sight of one eye.

Vaccinator-in-chief is the title of Dr. John A. Henry, who has been appointed to supervise the work and inspect the results of the compulsory vaccination recently ordered in Denver.

Denver Physicians, who have had offices in the California Building, are said to be making plans to erect a building exclusively for physicians. The reason for this action is said to be a proposed, unreasonable advance in rent.

GEORGIA.

Dr. John C. Goodman was elected city physician of Tifton, January 12, vice Dr. Arthur P. Hunter.

The Atlanta Board of Health reorganized January 18, re-elected Dr. William C. Jarmagin, chairman, and elected Dr. Everard H. Richardson, secretary.

The Macon Hospital, in 1900, cared for 232 white and 120 colored patients. The earnings from pay patients amounted to $3712.50, an increase of $1204 over those of the previous year.

The Savannah Hospital will benefit to the extent of about $40,000 by the will of the late Dr. William Duncan, of Savannah, on the death of the brother of the deceased. A bequest of $1500 is to be paid to the hospital at once.

ILLINOIS.

The isolation hospital at Peoria is ready and the three smallpox patients who have been quarantined pending its completion have been transferred to it. No new cases have developed.

Dr. Frank Anthony, Sterling, who served with distinction as major and surgeon of the 6th Illinois Infantry, U. S. V., in the war with Spain, has been appointed assistant surgeon-general of the Spanish-American War Veterans in the Department of Illinois, with the rank of colonel.

Chicago.

The donations to date toward the hospital for the treatment of consumptives to be erected this year at North Forty-eighth and North Avenues, under the management of the sisters of St. Elizabeth's Hospital, aggregate $20,067.

Norwegian Tabitha Hospital.—At its seventh annual meeting this institution reported assets of $37,640.75 and liabilities of $8037.27. A proposition to put the hospital under the management of one of the Norwegian church societies was rejected and it was decided to continue the management as heretofore, receiving patients irrespective of creed or nationality.

Alumni Organization.—Alumni of Bellevue Hospital Medical College and the medical department of New York University have organized a Western branch of the association, with Dr. James F. Todd, president; Drs. James G. Kiernan and John McKinlock, vice-presidents; Dr. Willis O. Nance, secretary, and Drs. Hugh T. Patrick, J. Sanderson Christison, Julius Grinker and Sanger Brown, executive committee.

The Health of the City.—The report of the Department of Health for the week ended January 26 shows a reduction of about 50 per cent. in the mortality from the acute pulmonary afflictions, as compared with the previous two weeks. The total mortality has also decreased more than 10 per cent. as compared with the previous three weeks. The rate per 1000 per annum was 14.77. The deaths under 1 year were 98, and over 60 years, 102. Consumption caused 53 deaths; pneumonia, 74; bronchitis, 26; influenza, 17, and violence, 30.

Internes in Asylums.—The Chicago Medical Society, Chicago Pathological Society, Chicago Neurological Society and Chicago Society for Internal Medicine have passed resolutions recommending the selection of at least four medical internes for each of the state hospitals for the insane; that such internes shall be selected by competitive examinations from the graduates of the medical colleges in the state, recognized by the State Board of Health, that they shall serve for one year, and receive as compensation lodging, board, washing, and $100 at the expiration of their term of service, and that the professors of nervous and mental diseases of the five medical colleges having the largest number of students in attendance shall be the examiners to select these internes.

Resolutions on Division of Fees.—The committee to whom was referred the resolutions of the Chicago Medical Society, January 23, met and adopted the following resolutions, which were recommended to the Society for adoption: "Resolved, That the offering, or the giving of a commission, or percentage of a fee, by a consulting physician or operating surgeon, or the asking or receiving such a fee or commission in any guise whatsoever, by the physician referring the case, is dishonest, disreputable and unethical, unless such arrangement be made with the full knowledge of the patient; Resolved, That a violation of this resolution shall subject the offender to expulsion from the Society."

The resolutions were adopted unanimously by a rising vote. The Physicians' Club has passed resolutions to the same effect: "Resolved, That the Physicians' Club of Chicago most severely condemns the seeking for or the receiving of a commission or part of a consultation or operation fee, as well as the offering or giving of a commission, or a part of a fee, as practices highly dishonorable and detrimental to the best interests of the medical profession."

Vaccination a Safeguard.—The interest in vaccination justifies belief that the city will be spared any such serious results from the present outbreak of smallpox as have usually followed epidemics, even when contagion was much less widely spread. The bulletin of the Health Department again refers to the object-lesson in vaccination that Germany furnishes the world. As has been truly said, that country stands alone in fulfilling in great measure the demands of hygiene as to smallpox. In consequence of the calamitous epidemic of 1870-71, it enacted the law of 1874, which makes vaccination obligatory in the first year of life and revaccination at the tenth year. In 1871, out of a population of 50,000,000, there were 143,000 deaths from smallpox. By vaccination and revaccination rigorously enforced through the law of 1874, this mortality has been reduced to 116 a year in a much larger population. These cases, moreover, occur almost exclusively in towns on the frontier. In a recent lecture, Dr. Bizzizziro, of Rome, said: "In 1870-71, during the Franco-German War, the two peoples interpenetrated each other, the German having its army completely revaccinated, while the French were vaccinated perfunctorily. Both were attacked by smallpox, but the French army numbered 23,000 deaths by it, while the German army had *only 278*; and in the same tent, breathing the same air, the French wounded were heavily visited by the disease, while the German wounded, having been revaccinated, had not a single case." No properly vaccinated person in Chicago need fear the present outbreak. Every unvaccinated person is in danger of the disease, besides being a menace to the reputation of the city. The type of the disease continues as mild as during the previous three years of its prevalence in the country, and its mortality-rate is insignificant. Of the two deaths that have occurred at the Isolation Hospital since last June, only one is properly attributable to smallpox. The other was the victim of a chronic incurable disease of the liver, and he was awaiting death at the U. S. Marine-Hospital when attacked by smallpox in a very mild form.

INDIANA.

The estate of the late Dr. Benjamin F. Swafford, of Terre Haute, is valued at $50,000.

Dr. William E. Stemen, who has been serving in the Philippine Islands as an acting assistant surgeon in the army, has returned, requested annulment of his contract, and will locate in Fort Wayne, associated with his father.

The president of the Indiana State Board of Health strongly favors the bill introduced in the present legislature providing for the establishment of a state laboratory. The last legislature passed a pure food law, but failed to appropriate funds for its enforcement.

A bill has been introduced in the house of representatives providing for the establishment by the state of a village for epileptics. A tract of not less than 1000 acres of land is to be purchased and $40,000 to be appropriated for this purpose. The bill goes into details, but does not suggest any particular site for the colony.

IOWA.

Dr. Harry M. Hoag sustained a loss of $1000 by the fire at Garner, January 11.

Dr. Harvey L. Cokenower, Clarinda, has been appointed chief division surgeon for the Keokuk & Western Railroad.

The formal transfer of the Iowa College of Physicians and Surgeons, Des Moines, to Drake University was made January 19.

Applicants numbering twenty-five assembled at Des Moines January 22 to take the examination of the Iowa State Board of Medical Examiners.

Dr. Levi Loar, of Selma, who was sentenced to the penitentiary for six months for attempted abortion, has appealed his case to the supreme court. He has also brought suit against an attorney and another person to recover $300, which he alleges he paid them to compromise the matter. He also claims $5000 damages.

District Physicians' Compensation.—In Iowa physicians are not burdened with heavy compensation for their services. The newly-elected physician for Red Oak city and township, including the jail, poor-house and hospital, medicines and services, receives $200 a year. Le Mars district pays its physician $175; Merrill district, $80; Remsen district, $65; Akron district, $100; Kingsley district, $75, and Buckingham and Perry townships, $57 per annum.

MICHIGAN.

Chippewa County Supervisors have appropriated $600 for the construction of a temporary isolation hospital on the poor-farm site.

Dr. W. H. Hutchings has been appointed chief surgeon of the Ann Arbor Railroad and Steamship Lines, with headquarters at Ann Arbor.

Bills have been introduced in the state senate and house of representatives, providing for the establishment of a hospital for consumptives.

Medical Men of the Soo have decided to form an association for mutual benefit and professional advancement. At the initial meeting held January 16, Dr. H. E. McLennan, Sault Ste. Marie, was elected secretary of the association.

Port Huron is to have a new hospital to be known as the "Memorial Hospital," to cost $25,000, and to be non-sectarian. Dr. Mortimer Wilson is the secretary of the association, which held its first meeting and adopted resolutions January 21.

MINNESOTA.

The coroner of St. Louis County, Dr. Samuel H. Boyer, of Duluth, has announced the appointment of medical deputies as follows: Dr. George N. Buchart, Hibbing, and Dr. George A. Tripp, Tower.

Dr. F. A. Dunsmoor, Minneapolis, medical director of the Asbury Hospital, suggests in his annual report that the old building be utilized as a pathological department, and that eventually it be maintained by the various hospitals of the city as a quarantine hospital, having separate wards for the different communicable diseases.

Smallpox Precautions.—To cope with smallpox in the logging camps of northern Wisconsin and Michigan, it was decided at a conference of health officers and loggers at Duluth, that vaccination should be encouraged, quarantine regulations enforced, and isolation hospitals provided. The loggers agreed to employ only vaccinated men or those immune by having had smallpox.

MISSOURI.

Dr. Harry H. Johnson, Neosho, has been appointed local surgeon for the Kansas City Southern Railway.

Dr. Oscar O. Braecklein, Kansas City, was fined $5 on January 19, for having failed to report a case of smallpox.

Dr. Budford M. Henry, Alba, was seriously injured in a runaway accident, January 12; his upper jaw was broken and his right eye so injured that it was necessary to have it enucleated.

The smallpox situation in Fayette was taken up at a recent meeting of the Howard County Board of Health, at Fayette, and it was decided to erect an isolation hospital at once, to place guards near homes where the disease is known to exist, and to order compulsory vaccination.

Missouri State Medical Association.—It is announced in the *Medical Herald* that the St. Louis and St. Joseph medical societies have passed resolutions urging the officers of the State Medical Association to change the date of the meeting from May 20-23 to February 26-28, and that immediate and active steps be taken to change the date and to promote the success of the session. The reason for this is that an important bill to regulate the practice of medicine is soon to be brought before the state legislature, and it is desired to give the association the opportunity to act in this matter in the interest of the profession at large.

NEW JERSEY.

Dr. Livingston Hinckley, Newark, for sixteen years superintendent of the Essex County Hospital for the Insane, has resigned.

The Orange Memorial Hospital, at the annual meeting of its directors, January 14, appointed Dr. William J. Chandler, South Orange, to fill the vacancy on the staff caused by the death of Dr. William Pierson, and Drs. Mefford Runyon, South Orange, and Harry E. Matthews, Orange, on the general staff.

Hospital for Consumptives.—Senator Hutchinson, of Mercer County, will introduce a bill asking for an appropriation of $50,000 for the establishment and equipment of a hospital for the care and treatment of cases of tuberculosis. The measure is the result of the action taken by the Trenton Board of Health on the protection against the spread of tuberculosis in healthy communities, and the bill was prepared and approved by the Mercer County Medical Society.

The Camden City Dispensary.—The board of managers of the dispensary have elected the following staff: Medical, Drs. John G. Doron, Grant E. Kirk, Levi B. Hirst, Frederick V. Dunn, Joseph H. Willis, William I. Kelchner, and William H. Pratt, Camden, Edgar B. Sharp, Berlin, Vernon E. De Grofft, Bridgeton; diseases of the eye, Dr. Robert Casperson, Camden; diseases of the nose, throat and ear, Drs. Ernest S. Ramsdell, Camden, and Vernon E. De Grofft, Bridgeton; district physicians, Drs. Joseph Willis and William H. Pratt, Camden.

Investigation of Morris Plains Hospital for the Insane.—A resolution has been introduced in the legislature calling for an investigation of this hospital. This action has been hastened on account of a case in which it was charged that the wife of a citizen had been committed to the asylum when her friends believed her to be sane. She has recently been adjudged in possession of her right mind and has been released. It is charged that sane persons have been committed to the hospital several times. A revision of the laws will also be asked for. It is hoped that some provision will be made for epileptics so that they may be kept separate from the chronic insane.

NEW YORK.

Dr. D. W. Harrington, Buffalo, has presented an ambulance to the Buffalo General Hospital.

Dr. H. McClellan, Jeffersonville, was arrested January 9, at the instance of the Sullivan County Medical Society, and held in bonds of $500 on the charge of practicing medicine without a state license.

Dr. Walter D. Greene, assistant health commissioner, of Buffalo, has notified each parochial school that every pupil not vaccinated within the last five years must be vaccinated before February 11.

The bill, affecting the State Board of Health, which provided for a commissioner at $2500, the appointment of two state officers to serve without pay, and for a secretary at a salary of $3500, has been drawn up and will be presented to the legislature at the present session.

The State Board of Health reports that with 150 cases of consumption and more than 40 of typhoid fever in Sing Sing prison, and with such defective plumbing arrangements that gases back up into the buildings with the rise of the tide, it does not appear that this prison is a fit abode for human beings other than those who have been sentenced to death.

Proposed Medical Law.—A bill has been introduced in the legislature having for its special object the suppression of quackery, and more particularly faith-curing and like humbugs. Opposition to this very proper measure has arisen from the proprietary medicine men, who fear that bringing into the category of those engaged in the practice of medicine, all persons who shall "prescribe, direct, recommend or advise for the use of any other person any remedy or agent whatsoever" will prevent them from advertising as hitherto, and this would end their business. Assemblyman Bell, who introduced the bill, declares, however, that it is not aimed at any class, trade or organized sect, and that it does not include patent medicines that are the recipes of registered physicians. He adds, as his opinion, that any one who practices medicine, be he a faith-healer, or what not, should first be educated as a physician.

NORTH DAKOTA.

Dr. August S. Eggers, Grand Forks, has returned from his European trip.

Dr. E. C. Branch has been appointed assistant physician of Cass county, succeeding Dr. Henry G. Fish, Wheatland.

The State Board of Medical Examiners met at Fargo, January 10, examined applicants and issued licenses to practice medicine to five physicians.

Dr. Henry A. Beaudoux, Fargo, has been appointed oculist and aurist of the divisions of the Northern Pacific Railway which end in Fargo. His territory extends from Mandan to St. Paul.

OHIO.

Dr. Alexander M. Steinfeld, house physician of the Children's Hospital, Columbus, has resigned.

Two Cincinnati irregulars were arrested at the instance of the State Board of Medical Examiners on the charge of practicing medicine without first having complied with the law requiring registration.

Dr. Benson E. Sager, Cleveland, has been arrested on the charge of failing to report a case of diphtheria within the legal limit. He claims that he took every precaution and his friends acknowledge his technical guilt.

Concentration of Medical Libraries.—A resolution has been introduced before the Cincinnati Library Board, looking toward the concentration of all the medical libraries in the city, namely, those medical works in the Public Library, the library of the City Hospital, and the books in the possession of the Academy of Medicine—a reading room at the Public Library, where they can be properly arranged and catalogued, and placed in charge of a competent attendant.

Board of Medical Registration and Examination.—The annual report of the Board, filed at Columbus, January 19, shows that, in 1900, 679 certificates were issued to graduates; 10 to practitioners of ten years' experience, and 6 on examination, while 30 applicants were rejected and two certificates revoked. Since the establishment of the Board, 9373 certificates have beeen issued to graduates, 725 to legal practitioners, 15 one-year certificates on examination, and 6 to graduates on examination. The rejections number 464, of which 215 were graduates, 227 legal practitioners and 22 as a result of examination.

Examination of Prostitutes.—During the past two months the health department of Cincinnati has been endeavoring to limit the spread of venereal diseases by forcing prostitutes to submit to rigid examination by some appointee of the Department. It had been learned that many of the physicians who had previously been engaged in this work were in the habit of issuing certificates without making any examination whatever. Suit was brought against the department in the person of the health officer, Dr. Clark W. Davis, by several physicians engaged in this business, for $10,000, under the plea that their work was unlawfully interfered with by the health department. At the regular meeting of the Cincinnati Academy of Medicine, January 21, a resolution was offered by Dr. Charles A. L. Reed, president of THE AMERICAN MEDICAL ASSOCIATION, seconded by Dr. Thadeus A. Reamy, and adopted, that the Academy approve and sanction the action of the Department and of Dr. Davis.

PENNSYLVANIA.

INFLUENZA PREVAILS to such an extent in Allentown that four schools have been closed. Many employees of the business houses are also ill with the disease.

DIPHTHERIA has recently increased in Mount Joy at an alarming rate. During the week ended January 21, seventeen new cases developed. Several deaths have occurred.

THE CONTRACT for the construction of a barracks, hospital and crematory at Marcus Hook has been awarded by the State Quarantine Board at a figure less than the amount available, $3500.

DISINFECTION AND FUMIGATION at Pittsburg have been discontinued because the sum appropriated for the purpose has been exhausted. Hereafter, unless further provision is made, disinfection must be made at the expense of the owners or occupants of buildings.

Philadelphia.

SNEAK THIEVES raided the offices of Drs. Otho D. Schaul and B. Frank Wentz, January 19.

A LAY BOARD OF TRUSTEES of the Medico-Chirurgical College and Hospital was elected January 15. Heretofore the trustees have been medical men.

THE BOARD OF CHARITIES AND CORRECTION at a recent meeting added thirteen members to the staff of the Philadelphia Hospital, making the total number 66.

DR. WILLIAM G. SPILLER has been appointed demonstrator in neuropathology at the University of Pennsylvania. He will conduct a two-months' elective course in this branch.

WILLIAM G. TOPLIS, chief of the bacteriological laboratory at the test filtration plant of the city's water-supply, has resigned, and William R. Copeland, of Pittsburg, has been appointed his successor at a salary of $200 a month.

DR. ANNA SHARPLESS has been re-elected president of the corporation of the West Philadelphia Hospital for Women. This institution has recently received $5000 for the endowment of a free bed, through the bequest of Mary Baker, deceased.

TENNESSEE.

DR. PIERRE WILSON, Denison, has gone to Baltimore, on his way to Germany, where he expects to study for nine months.

DR. JEFFERSON M. HARRISON, one of the oldest physicians in Knoxville, is very ill, and his recovery is considered doubtful.

DR. ANDREW P. NELSON, Winchester, has been elected physician, and Dr. Thomas B. Anderton, health officer, of Franklin County.

DR. JAMES M. INGE, Denton, has been appointed to the chair of anatomy and clinical surgery in the medical department of the University of Texas.

THE NEW CITY HOSPITAL at Knoxville was formally accepted by the city council, January 18. The cost of the building to date has been $32,243.36, and $15,000 additional is asked for to complete the buildings and grounds.

DR. J. B. ADAMS, San Antonio, who recently came to that city from Alabama, on account of his health, was seriously injured by a street-car, Jan. 14, sustaining crushing wounds of both legs, necessitating their amputation.

A CHARTER was granted January 12 to the Memphis Hospital Medical College Building Company, incorporated by Drs. William B. Rogers, Elmer E. Francis, James L. Minor, Bennett E. Henning, Alexander Erskine, Dudley D. Saunders, E. Paul Sale, B. Frank Turner and Thomas J. Crofford, with a capital stock of $40,000.

VIRGINIA.

DR. WILLIAM P. MATTHEWS has been chosen to succeed Dr. Lawrence Ingram as president of the Manchester Board of Health.

THE EXAMINATION held by the State Board of Medical Examiners, Dec. 17-20, resulted in the passing of 42 out of 53 applicants.

DR. HENRY T. BATTE, Norfolk, has been appointed city coroner of Norfolk, to succeed Dr. Robert S. Spillman, who has accepted a contract as acting assistant-surgeon in the army.

Faculty Changes.—The Medical College of Virginia has appointed Dr. Ennion G. Williams professor of pathology and bacteriology, vice Dr. Ernest C. Levy, resigned; and Dr. B. Lawrence Taliaferro, assistant to the chair; Dr. Greer Baughman, who has just returned after three years' study in Vienna, demonstrator of physiology, and Mr. E. D. Starke, prosector in anatomy. In the University College of Medicine, Dr. J. Allison Hodges has been chosen president to succeed the late Dr. Hunter McGuire and Dr. E. G. Hill, adjunct professor of chemistry.

GENERAL.

PASSED ASSISTANT SURGEON M. J. ROSENAU has returned to Washington, D. C., and resumed his duties as director of the hygienic laboratory of the U. S. Marine-Hospital Service. Dr. Rosenau has been doing special work in bacteriology at the Pasteur Institute, Paris, and the Pathological Institute, Vienna.

THE HOSPITAL-SHIP *Maine*, after thirteen months active service in South Africa, is to become a permanent addition to the British fleet. The vessel's complement of American surgeons, physicians and nurses, thirty-one in all, took formal leave of their ship at a reception tendered them at Portsmouth, England, January 16.

Journals Wanted.—Two copies of THE JOURNAL, vol. iii, No. ii, are wanted to complete sets for libraries, and we will pay 25 cents each for the return of issues of the above date to THE JOURNAL OF THE A. M. A., 61 Market Street, Chicago.

Cats and Plague Infection.—A representative of the U. S. Marine-Hospital Service at Constantinople, under date of Dec. 29, 1900, citing a case of bubonic plague which occurred in the person of the captain of the steamship *Dundee*, which plies between Egypt and Syria, states that the captain had six cats aboard, of which he was very fond. Several dead rats were found on the vessel, and shortly after this three of the cats died. The captain was then taken ill with bubonic plague and died.

Smallpox Data.—In view of the fact of the extraordinary prevalence of smallpox throughout the United States, it now being epidemic in greater or less severity in nearly every state and territory of the Union, the Surgeon-General of the U. S. Marine-Hospital Service is sending out the publications of the Service on the diagnosis, prevention, and management of this disease, to the health authorities of every town in which he learns there has been a case of smallpox.

San Francisco Plague Reports.—*Case 23:* Chun Way Lung, a male Mongolian, aged 60, a merchant, born in China, but residing at 720 Jackson St., San Francisco, died January 6. Dr. Kellogg, the city bacteriologist, saw the case on the afternoon of the 7th, with Dr. Wilson. He was a large, well built and rather fat man, showing no signs of continued illness. His associate gave a history of illness from gonorrhea for twenty days, a swelling appearing about a week before death. They also said he had been very feverish and thirsty, drinking water all the time, and that he had vomited several times during the last two or three days.

Examination showed a large flat swelling in the left groin, over Poupart's ligament, and extending internally to the middle line over the symphysis. Incision of this swelling did not disclose any lymph nodes, but there was much edema, and the tissues were dark, hemorrhagic and necrotic. A piece of the tissue removed showed the presence of the bacillus pestis in large numbers.

An autopsy was held the next morning by Dr. Kellogg, those present being Dr. White, of the U. S. Marine-Hospital Service, and Drs. Kinyoun, Morton, Ryfkogel and Wilson. The lungs were found to be normal, the heart very flabby and containing dark fluid blood, and about one ounce of dark bloody serum in the pericardium. The peritoneum was dry. The spleen was somewhat enlarged, its substance very dark, soft and pultaceous. Smears from the spleen showed many typical plague bacilli.

Two guinea-pigs inoculated with spleen from the case both died in five days of typical plague infection, and the organism has been recovered in pure culture from their organs and blood.

Case 24.—Leam Wing Low, aged 59, a male Mongolian, a laborer, was born in China and has been thirteen years in California, his residence 833 Clay St. He died January 15, at

6 a.m. Dr. Kellogg saw the case on the same day, with Dr. Wilson, and removed a portion of gland from a bubo in the right groin, just below Poupart's ligament. Microscopically the specimen showed the presence of the plague bacillus. He removed the spleen the next morning and found it to be much enlarged, the capsule tense, the substance soft, very dark, and the trabeculæ obliterated. The blood-vessels of the peritoneum covering the intestines were injected. No other glands were enlarged. Smears from the spleen showed the plague bacillus in small numbers. Inoculation experiments have been commenced.

Case 25.—Angelo Colombo, a native of Switzerland, residing at 5 Lafayette Place, was brought into the City and County Hospital by the police patrol on January 14 in an unconscious condition. The following is from the hospital record: "January 15. Patient well developed, well nourished, face flushed and cyanotic. Lies apathetic, pupils moderate in size, equal, and react to the light. Patient lies with mouth open. Tongue and lips dry. Vessels of neck pulsate. No dulness over lungs. Thorax well formed. Heart sounds clear. Abdomen not distended or sensitive. Liver extends 15 cm. below the margin of the ribs. Spleen reaches posterior axillary line. Patient is able to move both upper and lower extremities. Is continually restless and picking at the bed clothes. Temperature when admitted was 97.4. Bladder distended, passed per catheter 760 c.c. urine, acid, sp. gr. 1019, no sugar, a trace of albumin. Was given 1 m. ol. tiglii. Died Jan. 15th, 11 p.m." Dr. Kellogg saw the patient at the city morgue. He found the spleen much enlarged, rather soft, the capsule wrinkled, and having several spots of opaque white thickenings of the latter. The cut surface was dark purple, the trabeculæ partially obliterated. The entire extent of the peritoneum was covered with a hemorrhagic sticky fibrinous exudate, matting together the omentum, intestines and parietal layer of peritoneum. There was no fluid in the peritoneum, and no enlargement of the lymph glands. Smears from the spleen showed the presence of a bipolar staining bacillus which was morphologically the bacillus of plague. Inoculation experiments have been commenced.

CANADA.

A BANQUET was tendered the staff of the *Canadian Journal of Medicine and Surgery*, Toronto, recently.

IN WINNIPEG, a man was recently found guilty of practicing medicine without being duly qualified by the medical act of Manitoba, under two different charges, and fined $25 and costs on each charge.

Scarlet Fever Epidemic.—From a table compiled by the Montreal Health Department, it is evident that that city has passed through a serious epidemic of scarlet fever. The cases in the Civic Hospital, from Sept. 29, 1900, to Jan. 19, 1901, numbered 681. The deaths for the same period were 139, the death-rate being 20.23 per cent.

Druggists and Medical Practice.—The medical detective of the Ontario Medical Council has filed information against eight Toronto druggists for practicing medicine without a license. The cases will be up in the police court next week, and will be watched with interest. It is stated that there is considerable of this sort of work done in Toronto.

La Grippe Mortality.—In Toronto, sixty deaths occurred from acute pulmonary diseases alone between Jan. 1 and 25. The total number of deaths there, to the 25th, was 278, and during the whole of January, 1900, the number was 265. In 1900 the deaths from pulmonary causes numbered 23 for the month, those from diphtheria 10, while this year the latter reached 16 to January 25.

Changes in Ontario Asylums.—Dr. Wilson, assistant at the Brockville Asylum, has been transferred to London, to take the place of Dr. A. T. Hobbs, who has resigned to enter on private practice. Dr. Laidlaw, assistant at the Orillia Asylum, who has just returned from South Africa, has been promoted to the vacancy at Brockville; while Dr. St. Charles, also of Orillia, has been transferred to Hamilton, to succeed Dr. Herriman, who has been transferred to the Kingston institution. The changes took effect Feb. 1.

Scholarship in Medicine.—Queen's Medical Faculty has decided to found a scholarship in medicine in commemoration of Dr. Fife Fowler, dean of the faculty, who has given forty-six years of active service to the college. The scholarship will be known as the Dean Fowler scholarship; $10,000 is required, and the graduates of Queen's throughout Canada and the United States will be asked to contribute. The faculty has already subscribed a goodly portion of this amount. In addition, $10,000 is to be expended on improving and enlarging the medical building. This amount will be raised from members of the faculty.

Deaf, Dumb and Blind.—The annual reports on the Ontario institutions for the education of deaf and dumb at Belleville, and of the blind at Brantford, have just been published. At the Belleville institution, 152 males and 130 females have been in attendance through the year which ended Sept. 30, 1900. Since its establishment, thirty years ago, 1187 children have been treated there. At the institute for the blind, at Brantford, 61 males and 52 females were in attendance last year, this being slightly less than the previous year. It is considered that the blind are decreasing in this province.

Consumptives and Tent Life.—During the recent cold snap, when the thermometer must have registered somewhere in the neighborhood of 20 degrees below zero, many of the consumptives at the sanatorium at Gravenhurst lived and slept in tents, without inconvenience, and, it is stated, with positive enjoyment and advantage to their physical well-being. Dr. J. H. Elliott, formerly superintendent, has returned to the institution after an absence of two years in foreign lands. Most of his time abroad has been devoted to the study of laboratory methods in connection with the bacteriology of tuberculosis, as well as visiting establishments for the treatment of this disease. He was one of the expedition from the Tropical School of Medicine at Liverpool, organized for investigating the phenomena of malaria on the west coast of Africa.

FOREIGN.

THE BUST of the Brussels otologist, C. Delstanche, was unveiled Sunday, January 20, in the otologic clinic of which he was the founder.

THE KATHARINE HOSPITAL at Moscow, the one connected with the clinics of the university, recently celebrated the 125th anniversary of its foundation.

LISBON, PORTUGAL, in addition to more than 20 practicing physicians is said to boast of 150 medical practitioners without legal qualifications—quacks.

DR. JAMES GRAHAM, Sidney, N. S. W., has been elected mayor, and it is expected that the civic hygiene will now be of the best, decreasing the probability of any further plague outbreaks.

ACCORDING TO the *Presse Médicale* of Paris, the budget for the hospitals in 1901 includes an appropriation of 718,000 francs or about $143,000 for gauze alone. This corresponds to 6,300,000 meters.

THE RUSSIAN government has authorized the foundation of a university for women, to have only faculties of medicine, pure science and natural science. A merchant of Moscow has given 3,000,000 roubles for its establishment.

THE MEDICAL SOCIETY OF ATHENS is organizing a "Pan-Hellenic Congress of Medicine" to take place in Athens next May. Foreigners will be welcomed as members of the Congress. The address of the secretary is M. Mangakis, 85, rue de l'Université, Athens.

PLAGUE REPORTS from Sidney, N. S. W., dated December 29, state that there are no further cases in the colony and that on December 3 there were but two under treatment at Brisbane. During the week ending December 3, three cases were reported at Thursday Island.

IN THE GERMAN town of Biebrich, a charlatan treated a pregnant girl for ascites, and, when she was delivered, allowed the child to die, from ignorance of the proper procedures. Criminal proceedings were instituted against him and he was condemned to two months in prison.

HUCHARD'S CLINICAL amphitheater at the Necker Hospital in Paris has been remodelled at his expense, and he has inaugurated a series of bedside talks on therapeutics. If a listener fails to understand anything that has been said, he is to ask for further explanations, placing his request in a box provided therefor, and the next day Huchard again refers to the matter.

Seats for Employes.—The *Sem. Méd.* says that the French law, which went into operation with the new year, decrees that seats corresponding to the number of female employes must be provided in stores. The German law requires "a sufficient number of seats" and the English law of 1899 one seat for each three female employes.

Mecca Pilgrimages Regulated.—The pilgrimages to Mecca are to be strictly supervised this year by the sanitary authorities, and they are to be restricted as much as possible. Several districts of India, including the Bombay Presidency, have forbidden residents from taking part in the pilgrimage. All pilgrims leaving India must sail from two appointed ports and submit to rigid disinfection.

G. A. Chatin, M.D.—The death of G. A. Chatin, M.D., of Paris, is announced. He was born in 1813, a member of the Académie de Médecine for forty-eight years, and at one time its president. He was director of the Ecole de Pharmacie and author of the "Comparative Anatomy of Vegetables," among other works. . . . Professor Dubreuil, of Montpellier, France, after twenty years of gratuitous labors in the hospitals, has left to them his property of $140,000. He was 66 years of age at the time of his death.

Inoculations with Syphilis.—Neisser's inoculation of three prostitutes with syphilitic serum some years ago has been frequently mentioned in these columns. He has finally been officially condemned by the German disciplinary court, which has been investigating the matter, and besides a reprimand, a fine of about $75 has been imposed. The minister of public instruction at once issued a proclamation forbidding, in all clinics and other institutions for the care of the sick, all medical intervention other than for diagnostic, curative or preventive purposes.

German Medical Courses.—It is now a definitely established fact that graduates of the technical high schools in Germany are eligible to admission to the medical course in the universities, the same as those who have taken the classical course. An editorial in the *Allg. Med. C. Ztg.* observes that some persons attribute to the unpractical, classical training of physicians in the past the apparent contempt for worldly goods which induces certain members of the profession to serve the sickness-insurance societies at terms lower than the cheapest day laborer's hire. If it is the classical training which is responsible for this ultra-magnanimous conduct, then the acquisition of technically trained members will prove a boon to the profession. But there is little chance that the coolly practical, technical graduates will turn their attention to the arduous career of medicine.

Medical Practice in New South Wales.—The new medical practice act for New South Wales calls for a term of five years' study of medicine. This would, therefore, exclude an American from practice because he is supposed to have graduated from a school of but four years. However, it seems that the first of the five years is similar to the last year usually spent in an American preparatory school before entering an American medical college, and the regulations of the British Medical Council says: "Graduates in the arts and sciences of any university recognized by the medical council, who shall have spent a year in the study of physics, chemistry and biology, and have passed an examination in these studies for the degrees in question, shall be held to have completed the first of the five years of medical study."

Red Cross Society of Japan.—From the *Times* (London) of January 7, we learn that the Red Cross Society of Japan is a very flourishing institution. Its list of subscribers contains nearly 700,000 names, and its annual income is 2,000,000 yen. It has hospitals in the chief cities, that in Tokio being especially fine, and it possesses a large staff of trained nurses, male and female, who in times of peace are at the service of the general public. The Japanese woman makes an admirable nurse. She has been criticised by some foreigners for lack of resolute initiative, and the criticism is probably just where there is a question of dealing with the "masterful Occidental." But she shows no want of resolution in the presence of patients of her own nationality, and her gentleness, sympathy, unremitting attention and complete self-effacement are beautiful qualities. One of the interesting and novel features of the society's organization is that it has two large steamers—the *Mercy* (Hakuai) and the *Saviour* (Kosai)—which are specially constructed and equipped as floating hospitals. In these ships the wounded and the sick find all the comforts furnished by a first-class hospital on shore, and are under the care of a large staff of highly-trained surgeons and nurses. The arrangement made at Tien-tsin was that all the light cases should be conveyed by the most suitable vessels in the transport fleet, and that the graver should be carried by the Red Cross ships. The *Mercy* and the *Saviour* each made five voyages from Ta-ku to Hiroshima between July 18 and October 11, and carried altogether 1678 patients, wounded and sick. Eleven ordinary steamers were similarly employed, and, according to returns just published, the total number of wounded officers and men carried to Hiroshima from the beginning of the complication until October 31 was 776, and the number of sick 2643, making an aggregate of 3419. Out of these the recoveries thus far have been 1717, and the deaths 110. The Red Cross Society has disbursed a sum of 600,000 yen, but the government's outlays are not yet publicly known.

Correspondence.

Dividing the Fee.

Montpelier, Ind., Jan. 25, 1901.

To the Editor:—The *Chicago Times-Herald*, in its issue of yesterday, contained an article on "The Doctors at Odds on Divided Fees." This appeals so strongly to a common sense of justice that I wish to take sides with those physicians who are opposed to the fee dividing scheme, and endorse as emphatically as I can their reasons for not wanting to reduce the profession to a commercial basis.

Some time ago I received a circular letter, and you may well imagine my disgust and chagrin when I read it. It evidently had emanated from one who fully understood the financial side of the "fee dividing" problem. This would-be surgeon—I say would-be, as no reputable one would send out such a communication—with a great wealth of rhetorical diction, intimated the injustice of not dividing the fee with the man who had brains enough to diagnose the case, and intimated his intention of doing so with all who would send their cases to him for surgical aid. This, to me, had an unmistakable flavor of "fee faw fum."

It has been, during my short career as a general practitioner, my pleasure to consult surgeons, and retain them to operate. I have stood by and eagerly watched each step, while the benefit I derived from this privilege was compensation far in excess of the division of any fee.

Is it possible to conceive of a future time when general practitioners will turn their patients for operation to the highest surgical bidder? I hope not. May a time come when surgeons will clamor with their bidding for an operation, like a pack of wolves howling and snarling over a corpse? I am sure not. Will a time come when the wheels of professional ambition will be retarded or clogged by the having to "divide the fee" proposition staring one in the face who is trudging up the rugged steep, bearing that inevitable banner of excelsior? I pray not. Yet I feel that such a move as dividing fees would be the nucleus from which would grow professional disgrace and ruin.

On the evening of November 3, 1900, the profession of the country set the seal of its approval on hard work and earnest study by tendering to Dr. Christian Fenger a testimonial banquet (see The Journal, vol. xxxv, p. 1214). This great surgeon, by incessant toil, has won the everlasting praise of his fellows and set an example we may do well to follow, but do not say to him, You may operate on my case if you "divide the fee."

J. C. O'Day, M.D.

Intravenous Transfusion of Formaldehyde Solutions.

Park City, Utah, Jan. 26, 1901.

To the Editor:—In your editorial, Dec. 29, 1900, on "Treatment of Tuberculosis," you remark that Dr. R. McGuire has lately treated tuberculosis by intravascular injections of formaldehyde solutions.

Permit me to report some experiments I made three years ago on dogs with intravenous injections of solutions of formaldehyde. Lack of time and a laboratory forced me to give up my studies in this line. I tried to solve the two following propositions: 1. Would it be possible, without injuring the animal, to introduce into the circulation formaldehyde in sufficient amount to disinfect tuberculous lungs? 2. By introducing formaldehyde into a vein of the foreleg—forearm—would the gas, after permeating the lungs, escape by the mouth, or would it go to the left side of the heart and into the general circulation?

It has been proved that plain, sterile water, transfused into the blood-vessels, will injure the blood-corpuscles; therefore, normal salt solution, which is compatible with formaldehyde, was chosen as the menstruum for the formaldehyde. It has, also, been proven that gases can be introduced into the blood without stopping the action of the heart. A piece of white blotting paper was saturated with a solution of fuchsin, then discolorized with dilute hydrochloric acid, which turns it yellow; when formaldehyde gas strikes this paper, the yellow color turns violet. I mixed 112 minims of formalin—45 minims of pure formaldehyde—with 2 ounces of warm normal salt solution; a vein was picked up in a dog's foreleg and the solution was slowly transfused; the yellow-colored blotting paper was immediately held near the dog's mouth; the violet color appeared in a few seconds. Of course, the dog died in two or three minutes, but the second proposition was solved—the gas escaped by the mouth. On the second dog, I used 25 minims formalin—10 minims pure formaldehyde. On a third dog, I used 37 minims formalin—15 minims pure formaldehyde. These two dogs lived and seemed as well after the experiments as before. In these, also, the formaldehyde escaped by the mouth. The yellow colored blotting paper gave no reaction of the formaldehyde test when arterial blood from the dead dog was heated. E. Viko, M.D.

The Philadelphia Medical Journal.

Philadelphia, Jan. 22, 1901.

To the Editor:—The issue of The Journal for January 5 contained statements which might convey a wrong impression concerning the changes recently made in the *Philadelphia Medical Journal*, its financial strength, the chances of its continued success and the nature of its aims as an exponent of high professional ethics. The insertion of this letter in your columns would therefore be greatly appreciated.

The changes recently made in the editorial department were based upon the action of a board of trustees, which contained at the time, as it does now, a proportion of five physicians to every lay member. That the *Journal* has, and will continue to be inspired by men who are familiar with "high ideals in medicine" and the needs of the general profession is therefore evident. True, the shareholders have not as yet received dividends. This is due to the fact that they have "sunk a large amount of money" in the elaboration of a foundation as enduring as the original plan of the *Philadelphia Medical Journal* was comprehensive. This was not done through the "lack of sagacity of those who put their money into it," but in order to better serve its subscribers and merit their continued patronage—the secret of success. Indeed, never has the ethical, scientific and financial position of the *Philadelphia Medical Journal* been more secure than at the present time; and, far from having "a demoralizing effect on legitimate medical journalism," it will continue, with its old contemporaries, especially The Journal of the American Medical Association, in its efforts to maintain the dignity, honor and scientific standard of American medicine. Your truly,

John B. Roberts, M.D., Secretary.

By Order of the Board of Trustees.

The Association's 1902 Meeting.

Memphis, Tenn., Jan. 22, 1901.

To the Editor:—The 1902 meeting of the American Medical Association should logically come south. Other southern cities, Atlanta, New Orleans, Louisville and Nashville have been honored, and Memphis is now the third largest city south of the Ohio River, with a population, by the U. S. census of 1900, of 102,320. It is well and centrally located, being in the very heart of the great Mississippi Valley. We have also eleven trunk lines, making Memphis accessible from all points. Besides, the adjacent territory, Mississippi, Alabama, Arkansas, Tennessee, Louisiana, Texas and southeast Missouri has many good physicians who have never joined the American Medical Association. I believe that if Memphis could secure the meeting next year our membership would be materially increased. Some few have doubted our ability to entertain the Association, but we now have in course of construction one of the finest hotels in the South, and our hotel facilities in general will be ample to accommodate all who may be present. With reference to suitable halls for the various sections, I can safely say there will be no trouble in securing all we need. We have a large auditorium, with a seating capacity of 4500, which would serve well for the general sessions, also for exhibits, and May would be the ideal month for the meeting should it come south. Our business men are liberal and progressive and it is safe to say that the Merchants' Exchange will do its part. Let the American Medical Association come south in 1902, to Memphis, the Queen City of the Mississippi Valley. Respectfully, Frank A. Jones, M.D.

Incised Wounds.

Chicago, Jan. 28, 1901.

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331 Loomis Street. Benj. H. Breakstone, M.D.

The British Pharmacopeia.

Ashton, R. I., Jan. 21, 1901.

To the Editor:—In The Journal of January 19, your London correspondent speaking of the British Pharmacopeia states that there were converted into this three pharmacopeias in the United Kingdom, issued by the Colleges of Physicians of London, Edinburgh and Glasgow respectively.

Now, in a great organ of professional thought and action like The Journal its readers expect above all things accuracy. There are, undoubtedly, in the United Kingdom three colleges of physicians, one for each kingdom, in London, Edinburgh and Dublin.

Your correspondent robs Ireland, giving Scotland double her due. N. O'D. Parks, L. C. P. I.

Marriages.

W. H. Ramsey, M.D., Omaha, Neb., to Miss Edna Ball, Waco, Texas, January 16.

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William D. Haggard, Sr., died at Columbia, Tenn., January 25, from the effects of a stroke of paralysis which occurred the previous day. He was born in Kentucky, 74 years ago, and his ambition from boyhood was to be a physician.

When he was 11 years old, his father died, and, as the oldest child, he assisted his mother in the management of the plantation. Later he was a clerk in a store, a school teacher, and at the age of 19 became tax assessor of Marion County. He saved enough to begin his medical studies at the University of Louisville in 1847, but completed his medical course at Jefferson Medical College, Philadelphia, and was graduated there in 1851. He practiced in Gallatin, Tenn., until 1864, and then moved to his farm near Sharon Hill. In 1874 he moved to Nashville, and was connected, as an instructor, with the medical department of the University of Nashville and Vanderbilt University. In 1884, he was elected to the chair of diseases of women and children in the medical department of the University of Tennessee, which chair he had occupied until recently, when he resigned in favor of his son. He has been a continuous member of the Tennessee Medical Society for a half century, and of The American Medical Association for many years. In 1887 he served as chairman of the Section on the Diseases of Children. In 1889 he was instrumental in organizing the Southern Surgical and Gynecological Association. In 1892 he was elected president of the Nashville Academy of Medicine, and in 1893 one of the honorary presidents of the Pan-American Medical Congress. He had been a faithful and unusually active and successful practitioner of medicine, and during the last ten or fifteen years has devoted most of his attention to surgery, in which he gained fame throughout the South. He also found time to devote to the teaching of his profession to thousands of students throughout the entire West and South, who will mourn his loss and revere his memory.

Hiram Christopher, M.D., University of Louisville, Ky., 1847, of St. Joseph, Mo., died January 21, after a long illness, aged 81. He was known as a scholar, and as an enthusiastic student of languages, and especially well versed in Greek. For a number of years he was dean of the Ensworth Medical College and he was at the time of his death, senior editor of the *Medical Herald*. At a meeting of the St. Joseph Medical Society, January 23, resolutions were adopted expressing the heartfelt sympathy and sorrow of the society at Dr. Christopher's death, and, as a mark of respect to his memory, the society adjourned.

George Lester Rundle, M.D., New York University, 1890, was injured by a train at Delawanna, N. J., January 20, and died the next day at the Passaic, N. J., Hospital. He was a member of The American Medical Association and surgeon of the Passaic General Hospital, as well as a member of the Passaic district and city societies.

David Caldwell Ireland, M.D., University of Pennsylvania, 1861, died suddenly of heart failure consequent on la grippe, at his home in Baltimore, Md., aged 57. He had served as member of the city council, coroner and president of the pension examining board.

William E. Davis, M.D., Meharry Medical College, Nashville, Tenn., 1887, a colored physician of Fort Worth, Texas, and a member of The American Medical Association, died at his home in Fort Worth, January 1, from pneumonia. He was 39 years old.

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Lucius J. W. Lee, M.D., University of Pennsylvania, from pneumonia, at his home in Brooklyn, N. Y., January 8, aged 64.

Rollin E. Beach, M.D., Missouri Medical College, 1872, died from typhoid fever, at his home in Vandalia, Ill., January 23.

Thomas Henry McCormick, M.D., Harvard Medical School, Boston, at his home in Taunton, Mass., December 31, aged 25.

William H. Pleuthur, University of Buffalo, N. Y., 1891, was found dead, January 17, aged 31.

James Marcellus Watson, M.D., Jefferson Medical College, 1852, died at his home, near Fisherville, Va., January 16, after a prolonged illness, aged 70.

Therapeutics.

Treatment of Dysmenorrhea.

The general practitioner is very frequently called upon to prescribe for the ailments during menstruation. The *Ther. Gazette* gives the following outline of treatment by Lyon for dysmenorrhea: Absolute rest in bed for twenty-four hours preceding the expected period; applications of hot compresses or poultices to the lower portion of the abdomen. Rub the skin of the abdomen with the following liniment:

℞.	Ext. belladonnæ fl.			
	Ext. hyoscyami fl., āā	ʒi	4	
	Linimenti camphoræ	℥iii	96	

M. Sig.: To be applied externally.

In some cases rectal injections are recommended:

℞.	Tinct. opii	m. x		66
	Aquæ amyli, q. s. ad	℥vi	192	

M. Sig.: As an enema to relieve the pain; or:

℞.	Infusi valerianæ	ʒii	8	
	Aquæ, q. s. ad	Oi	500	

M. Sig.: As an enema.

If the menstrual flow is excessive:

℞.	Ergotin	gr. ii		12
	Quininæ sulphatis	gr. i		06
	Pulveris digitalis	gr. ss		03

M. Ft. pil. No. i. Sig.: Take one such pill two or three times a day; or:

℞.	Ext. hydrastis fl.	℥i	32	

Sig.: Thirty to sixty drops to be taken in sweetened water *once or twice daily*.

In other cases he employs the tinture of viburnum prunifolium in the following combination:

℞.	Tinct. viburni prunifolii			
	Tinct. piscidiæ erythrinæ, āā	℥ss	16	

M. Sig.:Twenty drops four or five times a day.

Piscidia is an unofficial preparation derived from the bark *of Jamaica dogwood.* Its action upon the nervous system is similar to opium. It is used as a nerve sedative and for the different forms of neuralgias. He also recommends the following for the same conditions:

℞.	Antipyrini			
	Potassii bromidi, āā	ʒi	4	
	Ext. viburni prunifolii	ʒiii	12	
	Spiritus vini gallici			
	Syrupi aurantii flor., āā	℥ss	16	
	Aquæ destil.	℥ii	64	

M. Sig. One dessertspoonful two or three times a day.

Antipyrin is preferable to other coal-tar products such as acetanilid, because it does not produce the changes in the blood that follow the administration of acetanilid. Brunton states that acetanilid must be used with care in the treatment of such conditions.

If the flow is not abundant but difficult, hot sitz baths to which mustard has been added is recommended, or mustard applied to the anterior abdominal wall. In such conditions he gives the following:

℞.	Asafetidæ	gr. ii		12
	Ext. valerianæ	gr. i		06
	Ext. cannabis indicæ	gr. ss		03

M. Ft. Pil. No. i. Sig.: One, two, or three a day; or:

℞.	Sodii salicylatis	ʒii	8	
	Rum	℥iss	48	
	Aquæ destil., q. s. ad	℥iii	96	

M. Sig.: One teaspoonful three times a day.

Chronic Alcoholism.

To meet the different symptoms present in chronic alcoholism Dr. Daniel R. Brower recommends the following outline of treatment to replace the stimulant:

℞.	Tinct. capsici			
	Tinct. nucis vom., āā	ʒiv	16	
	Tinct. cinchonæ comp., q. s. ad	℥iii	96	

M. Sig.: One teaspoonful every four hours.

TO PRODUCE SLEEP.

℞.	Chloralis hydratis,			
	Potassii bromidi, āā	ʒiii	12	
	Ext. glycyrrhizæ fl.	℥i	32	
	Syr. simplicis, q. s., ad	℥iii	96	

M. Sig.: One dessertspoonful at night.

Careful attention must be given to the nourishment and elimination. He advocates the frequent administration of beef tea well seasoned with capsicum. The beef tea can be made of some of the prepared and reliable extracts now upon the market. Elimination by the skin, kidneys and bowels should be carefully observed. For the latter he recommends the following as a cathartic:

R. Pil. cath. comp. Sig.: One or two pills as needed to keep the bowels in good condition.

Chapman recommends the following pill in chronic alcoholism:

℞.	*Zinci oxidi*	ʒi	4	
	Piperini	℈i	1	33

M. Ft. pil. No. xx. Sig.: One pill three or four times a day.

Acute Alcoholism.

The following combination is recommended by Gerhard:

℞.	Tinct. capsici			
	Tinct. zingiberis			
	Tinct. valerian. ammon.			
	Tinct. gentianæ comp., āā	℥i	32	

M. Sig.: One dessertspoonful in a cup of hot water three or four times a day.

Treatment of Delirium Tremens.

Dr. C. G. Stockton, in *Amer. Therapist*, advises the administration of an efficient purgative followed by:

℞.	Potassii bromidi	ʒi	4	
	Chloralis hydratis	gr. xxx	2	

M. Sig.: At one dose, unless the condition of the patient's heart should require a smaller dose. If it is deemed necessary the above dose may be repeated. For the heart, if it should show signs of failure, he recommends digitalis. Alcohol should not be permitted in any form, but in its stead stimulation and nourishment, as beef tea with capsicum. Strychnin and nitroglycerin may be of better use in some cases than digitalis. As a cathartic he recommends aloin in half-grain doses administered hypodermically. By this means good evacuation of the bowels will be produced. Hyoscin hydrobromate can be given in 1/100 grain dose to quiet the delirium, but should be used with great care and is of advantage only when the delirium is a temporary one.

Tubercular Laryngitis.

In the later stages of tubercular laryngitis the following insufflation for the relief of pain, which is usually severe, and the restoration of the voice, may be given:

℞.	Iodoformi	ʒii	8	
	Cocainæ hydrochloratis	gr. iss		09
	Morphinæ hydrochloratis	gr. ss		03

M. Sig.: A small amount to be insufflated by the patient with a bent glass tube to relieve the pain.

Treatment of Chlorosis.

Two of the important factors to be observed in the treatment of chlorosis, as in the secondary anemias, are rest in bed and the relief of constipation. It has been demonstrated clinically that the increase in hemoglobin has been as rapid in chlorotic girls who were put to bed with the proper attention to elimination by the bowels as in the cases where ferruginous preparations were administered and permitting them to follow their ordinary vocations. As a laxative, a pill containing aloes in combination with other drugs certainly takes the first rank. Aloes acts more especially upon the lower bowel. Colonic flushings, using the normal salt solution, should be resorted to occasionally. As hematinics, the iron and arsenic preparations take the lead. Dr. Frank Billings thinks the tinctura ferri chloridi is probably preferable to any other preparation in the treatment of the anemias. He recommends it to be given as follows:

℞. Tinct. ferri chloridi
Glycerini, āā ....ʒi 32|
Aquæ destil., q. s. ad....................℥iii 96|

M. Sig.: One teaspoonful three times a day, well diluted in water.

He further states that perhaps patients have some apprehension as to its effects upon the teeth when administered in the form of the tincture, although the decay is more probably due to the anemic condition of the patient. He emphasizes the importance of giving it in large doses. It seems that his statement is a proper one, if, as Wilcox states it, iron administered in any form is taken up by the system and circulates as the chlorid. Notwithstanding this statement, personal experience with the Fleischl hemometer in the frequent examination of blood has shown the great value of the Blaud pill in such cases, combined as follows:

℞. Ferri sulphatis
Potassii carbonatis. āā ....ʒi 4|
Acidi arsenosi ....gr. i |06

M. Ft. capsulæ No. xxx. Sig.: One capsule after each meal three times a day.

The organic preparations of iron which are upon the market certainly do not improve the blood as rapidly as iron administered as above.

Sir Andrew Clarke's idea that chlorosis is caused by gastro-intestinal stasis and resulting autointoxication has led to the employment of saline purgatives and intestinal antiseptics. He recommended the following:

R. Ferri sulphatis ....gr. xxiv 1|5
Magnesii sulphatis ....℥vi 24|
Acidi sulph. arom........................ʒi 4|
Tinc. zingiberis ....ʒii 8|
Infusi quassiæ, q. s. ad..............℥viii 256|

M. Sig.: Two tablespoonfuls twice daily; or:

R. Ferri sulphatis ....gr. xxiv 1|50
Sodii bicarbonatis ....ʒii 8|
Sodii sulphatis ....℥vi 24|
Tinct. zingiberis........................ʒii 8|
Spts. chloroformi ....ʒi 4|
Infusi quassiæ, q. s. ad ....℥viii 256|

M. Sig.: Two tablespoonfuls twice daily, at eleven and six o'clock.

For chlorotic amenorrhea, the following pill is well recommended:

℞. Ferri phosphati ....ʒi 4|
Pulveris aloes ....gr. xv 1|
Quininæ hydrochloridi
Ergotini, āā.........................ʒss 2|

M. Ft. pil. No. lx. Sig.: One pill four times a day.

This pill possesses the properties of a laxative, hematinic, tonic and uterine stimulant, all of which are certainly indicated in the treatment of such conditions.

Medicolegal.

Must Order Trial of Sanity on Physician's Affidavit.—The Supreme Court of Georgia holds, in Sears vs. State, that when a practicing physician has made an affidavit that a person who has been convicted in a superior court of that state for the crime of murder, and has been sentenced by the judge of that court to be hanged, has been by the affiant examined since the sentence and conviction, and discovered to be, at the time of the examination and of making his affidavit, insane, and in such mental condition that the question of his sanity should be tried before a jury under the terms of the law, and when this affidavit has been duly presented to the judge for the purpose of procuring a trial on the question of the sanity of such a convict by the superior court of the county in which he has been sentenced, it is the imperative duty of the judge to order such trial, and to have a jury impaneled, as provided by the statute, for the determination of this question.

Effect of Judgment for Services on Malpractice Case.—The Supreme Court of Tennessee was cited, in the case of Sale vs. Eichberg, to two apparently conflicting classes of cases as to the effect of a recovery by a physician of a judgment for services on a subsequent action by the patient for malpractice. An examination of these cases, however, the court says, will show that they are distinguishable in this important attribute: that, where the judgment for fees is by default, no estoppel, as it is called, arises—that is to say, the judgment is no bar to an action by the patient to recover damages for malpractice; but where there is a judgment for fees on the merits, or a confessed judgment, the matter is *res adjudicata*, as it is termed, and it will bar a subsequent action for malpractice. The supreme court also holds here that in a malpractice case where a practicing physician is called as a witness for the plaintiff and quite freely expresses his opinion in respect of good practice and proper treatment in such cases, the defendant is entitled to test the knowledge of the witness, notwithstanding he disclaims being an expert, by reading or having him read, extracts from standard medical works, on diagnosis and treatment in such cases, and asking the witness whether he agrees or disagrees therewith, and then by comparing his opinion with those of the writer. An instruction for the jury that the law fixes the standard by which the injury shall be measured in a malpractice case, which is "full and complete and ample compensation to the injured person," the court pronounces objectionable, in repeating, and thus emphasizing, to stimulate the jury in assessing damages beyond the rule of simple compensation; the true rule in such cases being compensation.

Construction of Warranty That No Brother Had Died.—The case of the Globe Mutual Life Insurance Association vs. Wagner was certified to the Supreme Court of Illinois as involving questions of such importance that it should be passed upon by that tribunal. An applicant for a policy of life insurance had been asked in his medical examination: "How many brothers dead?"—and answered, "None." At the end of the series of questions and answers, which included the foregoing, he signed a declaration and warranty that the answers were true, and that said answers and the statements made in his application, together with this warranty, should form the basis of any contract of insurance that might be entered into between him and the association. But the evidence, when the policy issued was sued on, showed that a brother of the insured had died in London, England, more than four years prior to the date of the application for insurance, though there was no evidence tending to show that the insured ever knew of his brother's death. Did this invalidate the policy? The Supreme Court of Illinois holds that it did not. It maintains that the answer here in question should be held to be a representation, and not a warranty, and that, in the absence of proof by the company of fraud or intentional misstatement on the part of the insured, the policy was not rendered invalid merely because the answer proved to be false. It says that, in the absence of explicit, unequivocal stipulations requiring such an interpretation, it should not be inferred that the insured or his mother, who was his beneficiary and also signed an application for the policy and made the agreements and warranties in the medical examination hers as fully as if she had signed the same, took a life policy with the distinct understanding that it should be void if any statements made in the medical examination should be false, whether the insured was conscious of the falsity thereof or not. Whether or not the insured knew of the death of his brother at the time of the application for insurance was a question for the jury. To hold that, as a precedent to any binding contract, he should guaranty absolutely that none of his brothers were dead would be unreasonable, in the absence of a more explicit stipulation than here appeared. It not infrequently happens that a man loses trace of all or a part of his relations, and to hold him to absolute guarranty that they were living, in order that he might obtain insurance, would sometimes be impossible, and almost absurd.

Disclosures in Death Certificate Privileged.—The Court of Appeals of New York holds, in the case of Davis vs. the Supreme Lodge, Knights of Honor, that, in an action on a benefit certificate, the cause of death of a relative of the insured, as of an aunt, can not be shown by the certificate of death filed by the attending physician. The court says that it has held that the statements of the attending physician, for the purpose of establishing the cause of death, either of the insured himself or of his ancestors or their descendants, although not parties to nor beneficiaries under the contract, are not admissible. They are excluded not only for the purpose of protecting parties for the disclosures of information imparted in the confidence that must necessarily exist between patient and physician, but on grounds of public policy as well. The disclosure by a physician, whether voluntary or involuntary, of the secrets acquired by him while attending upon a patient in his professional capacity, naturally shocks our sense of decency and propriety, and this is one reason why the law forbids it. The form in which the statements are sought to be introduced is of no consequence, whether as a witness on the stand or through the medium of an affidavit or certificate. All are equally under the band of the statute. Nor does the court consider that section 834 of the New York code, which expressly prohibits disclosures of information acquired by a physician in his professional capacity, when the relation of physician and patient existed, was repealed by implication by the provision in the charter of the city of New York of 1897, providing that the organization of the health department of the city, and that authenticated copies of the record of the proceedings of the board of health and books and papers constituting part of its archives shall be presumptive evidence in any court of justice or judicial proceeding, when they may be relevant to the point or matter in controversy. It may well be, the court says, that the records are competent to prove the fact of death, or prove marriages or births. It is quite possible that in some cases they might be competent on questions relating to pedigree. These facts could always, at common law, be established by a species of hearsay evidence; but the cause of death in a litigation between private parties, concerning the obligations of a contract of life insurance, must be established, when material, by common-law proof.

Indictment Where Practicing Medicine Is Defined.—Section 1477 of the Political Code of Georgia defines what persons shall practice medicine in that state. Section 1478 declares: "For the purpose of this chapter, the words 'practice medicine' shall mean, to suggest, recommend, prescribe or direct, for the use of any person, any drug, medicine, appliance, apparatus, or other agency, whether material or not material for the cure, relief, or palliation of any ailment or disease of the mind or body, or for the cure or relief of any wound, fracture, or other bodily injury or deformity, after having received or with the intent of receiving therefor, either directly or indirectly, any bonus, gift, or compensation." The indictment in Blalock vs. State charged the former with the offense of a misdemeanor, "for that the said O. C. Blalock, on the 24th day of August, in the year 1900, in the county aforesaid, did then and there unlawfully and with force and arms practice medicine, without then and there being authorized to do so either by diploma from an incorporated medical college, medical school, or university, nor after having attended one or more full terms at a regularly chartered medical college, having been in the active practice of medicine since the year 1866, nor being then and there authorized to practice medicine in 1866, nor having been then and there licensed by the medical board; contrary to the laws of said state," etc. Now, this indictment the Supreme Court of Georgia holds, not only substantially complied with the provisions of sections 485 and 486 of the Penal Code of Georgia, upon which it was based, but was not defective in not alleging that the accused did illegally practice medicine with the intent of receiving, or after having received, directly or indirectly, any gift, bonus, or compensation for his services in prescribing, suggesting, or recommending any drug, medicine, appliance, apparatus, or other agency for the cure of disease. It says that this indictment charged the accused with unlawfully practicing medicine. What "practicing medicine" means is defined by section 1478 above quoted. Every person is supposed to know the law. Therefore, the accused was presumed to have known what was meant by the term "practice medicine" under the state code. In other words, the court holds that since, by statutory defination, the words "practice medicine" embrace the idea of exacting compensation, an indictment charging that the accused did unlawfully "practice medicine," and expressly negativing his having any of the qualifications essential to the lawful practice of medicine set forth in Section 1477 of the Political Code, is good in substance, and will support a conviction, although there be no allegation that the accused received or intended to receive compensation.

Miscellany.

The Psychic Equivalent of Epilepsy.—Recently a contractor suddenly lost all remembrance of self-consciousness from Friday at noon in New York City until he found himself in the Buffalo General Hospital the following Wednesday evening. The last remembered by him is that, being worried about an invalid wife and also feeling mentally exhausted from a very trying political campaign, he entered the elevated train to go to his home in New York City. During the time of his loss of self-consciousness he undertook a railway journey from this city to Buffalo. He was found by the police, aimlessly wandering about the streets, and was sent to the Buffalo General Hospital, service of Dr. Charles Cary. During the time he was in the hospital, it was impossible to get any account from him, but he repeatedly called for his wife and for the senator in whose behalf he worked so assiduously during the campaign. Wednesday night he regained consciousness, and was much surprised to find himself in Buffalo. He gave a history of a father who died of apoplexy, and a brother who, as a young boy, had fainting attacks. He had himself, while driving last summer, struck his head, was unconscious for three hours, and had a paresis of the right side.

The Roentgen Ray in Military Surgery.—In the annual report of the surgeon-general of the army for the year ended June 30, 1899, it was stated that a special report on gunshot injuries, in which the Roentgen ray was used, was being prepared by Capt. W. C. Borden, assistant-surgeon, U. S. A. This has just been issued from the surgeon-general's office as a handsome quarto volume of 98 pages, with 38 plates and many other illustrations. Seventeen X-ray machines were available for use during the Spanish-American War; 5 were static and 12 coil machines operated by primary batteries. The former were considered best suited for work at permanent hospitals where no dynamo current was available; the latter for the base and general hospitals of war service. In the Spanish-American War the apparatus was supplied only to general hospitals and hospital ships. The reasons for not making use of it in the field-hospitals are stated as: 1. Lodged bullets require immediate removal only in extremely rare instances. 2. The environments of and conditions incident to movable field-hospitals render asepsis in operating practically impossible and, in consequence, in field-hospitals non-interference with wounds should be practiced to the utmost extent possible. 3. Surgical interference with lodged bullets, except where adequate asepsis is available or the necessity urgent, is to be condemned, as the suppuration which follows is much more detrimental to the patient than the presence of the lodged missile. 4. A Roentgen-ray apparatus in the field is an additional incentive to surgeons to operate under conditions not adequately aseptic. The report shows clearly that in non-infected wounds extensive comminution of bone is not as a rule an indication for operative intervention; that where there is infection complete cleansing of the wound and removal of all loose bone fragments followed by drainage, antiseptic dressings and irrigation, usually suffice, and that excision or amputation is to be resorted to only in extreme cases.

Idiosyncrasy Not a Factor in X-Ray Dermatitis.—R. Kienboeck, who has had years of experience with the *x*-rays at the Vienna Roentgen Institute, announces that the effects of Roentgen treatment, the causation of dermatitis, etc., vary with the kind of tube employed and not with the individual subject. The Roentgen rays which chemically affect the sensitized plate are the essential element in Roentgen treatment and, if in excess, the dangerous factor. Individual predisposition varies in very narrow limits; the young react more strongly than older persons. The quantity of the rays generated and their intensity, the duration of the exposure and the distance of the tube from the tissues, must all be taken into account. He accepts as a standard exposure that which causes a simple, transient alopecia, with *restitutio ad integrum* in four to eight weeks. Exposure producing an exudative inflammation is tenfold the standard, and exposure followed by an intractable ulceration is thirty to fifty times the normal standard. Rays of less penetrating power, such as are produced in soft and medium soft—"good"—tubes, have a more intense action than those from hard tubes: 1, because the latter send out less Roentgen rays, and 2, because they give a very penetrating light. He urgently warns persons occupied with the Roentgen treatment not to expose themselves in any way to the chemically active Roentgen rays, but keep out of their limited and well-defined range of action. He tabulates twenty cases of *x*-ray injuries, all but two published before. One of the latter is a confrère engaged in Roentgen therapy, who acquired a "Roentgen hand," which resulted in a deep, extensive ulceration of the back of the hand. It has resisted, for a year, all the treatments applied. The other case is an ulceration of the hypogastrium after exposure to a "good" tube for seventy-eight minutes in three sittings. Unna has recommended as a protective measure for operators the application of a thick coating of zinc jelly containing 10 per cent. cinnabar and bismuth oxychlorid.

Societies.

RIVERSIDE COUNTY (Cal.) MEDICAL SOCIETY.—This Society held its quarterly session at Riverside and elected Dr. Ashley S. Parker, president, and Dr. Louise Harvey Clarke, secretary, both of Riverside.

ROME (N. Y.) MEDICAL SOCIETY.—At the annual meeting, held January 15, Dr. Arthur A. Gillette was elected president; Dr. Howard J. Teller, vice-president; Dr. Thomas P. Scully, secretary, and Dr. Gilbert N. Lehr, treasurer.

BLACKHAWK COUNTY (Iowa.) MEDICAL SOCIETY.—At the meeting, January 22, at Waterloo, Dr. Ernest J. Waddey was elected president; Dr. Henry W. Brown, vice-president, and Dr. Fred W. Keehl, secretary and treasurer.

CLARK COUNTY (Ky.) MEDICAL SOCIETY.—At the January 12 meeting of this Society, Dr. Oliver R. Venable, Winchester, was elected president; Dr. R. Browne S. Ishmael, Winchester, secretary, and Dr. John A. Snowden, Wade's Mill, treasurer.

REDLANDS (Cal.) MEDICAL SOCIETY.—The annual meeting and election of officers was held January 15, with the following result: Dr. George H. Scott, president; Dr. Charles C. Browning, vice-president, and Dr. J. E. Payton, secretary.

SKAGIT COUNTY (Wash.) MEDICAL SOCIETY.—The recent election of officers resulted as follows: Dr. M. B. Mattice, Sedro-Wooley, president; Dr. Winston Appleby, Laconner, vice-president, and Dr. Charles C. Harbaugh, Sedro-Wooley, secretary.

RICHMOND COUNTY (N. Y.) MEDICAL ASSOCIATION.—At the annual meeting held January 14, Dr. Jefferson Scales was elected president; Dr. C. Wilmot Townsend, vice-president, and Dr. Henry C. Johnston, secretary and treasurer, all of New Brighton.

TAYLOR COUNTY (W. Va.) MEDICAL SOCIETY.—At the January 18 meeting at Grafton, Dr. Alfred R. Warden was elected president; Dr. Achbor J. Baker, vice-president; Dr. Rawley H. Powell, secretary, and Dr. William F. Van Kirk, treasurer, all of Grafton.

SPRINGFIELD (Ohio) ACADEMY OF MEDICINE.—At the meeting of the Academy, January 6, the following officers were elected: Dr. Theodore F. Bliss, president; Drs. Noah Myers and Stanley R. Hutchings, vice-presidents, and Dr. Charles L. Minor, secretary and treasurer.

WHITE COUNTY (Tenn.) MEDICAL SOCIETY.—At the January 8 meeting, Dr. I. L. Davis, Darkey Springs, was elected president; Dr. William B. Young, Bonair, secretary; Dr. R. E. Lee Smith, Doyle Station, corresponding secretary, and Dr. D. R. Gist, Sparta, treasurer.

NEW BRITAIN (Conn.) MEDICAL SOCIETY.—The members of the Society opposed to the hospital management, met January 15 and elected officers as follows: Dr. Herman Strosser, president; Dr. Robert M. Clark, vice-president, and Dr. Louis Smirnow, secretary and treasurer.

LACKAWANNA (Pa.) MEDICAL SOCIETY.—The annual meeting was held at Scranton, January 8, at which the following officers were elected: Dr. Walter M. Reedy, president; Drs. Addison W. Smith and Joseph F. Grant, vice-presidents; Dr. Lucius C. Kennedy, secretary, and Lowell M. Gates, treasurer, all of Scranton.

ATLANTIC CITY (N. J.) ACADEMY OF MEDICINE.—The annual election was held January 11. Dr. Edward A. Reiley was chosen president; Dr. J. Addison Joy, vice-president; Dr. A. Burton Shimer, secretary; Dr. Walter Reynolds, treasurer, and Drs. Edward A. Reiley, Elisha C. Chew and Albert D. Cuskaden, board of governors.

WASHINGTON COUNTY (R. I.) MEDICAL SOCIETY.—At the annual meeting, held at Westerly, January 17, Dr. William A. Hilliard, Westerly, was elected president; Dr. Rowland R. Robinson, Wakefield, first vice-president; Dr. C. Grant Savage, Westerly, second vice-president, and Dr. J. Howard Morgan, Westerly, secretary and treasurer.

WARREN COUNTY (Pa.) MEDICAL SOCIETY.—A meeting was held at North Warren, January 15, at which the following officers were elected: Dr. James Gass, Sheffield, president; Drs. Joseph J. Knapp, Kinzua and William M. Robertson, Warren, vice-presidents; Dr. James R. Durham, Warren, secretary, and Dr. William V. Hazeltine, Warren, treasurer.

DELAWARE COUNTY (Pa.) MEDICAL SOCIETY.—This Society met at Chester, January 12, and elected Dr. George D. Cross, Chester, president; Dr. Conrad L. Partridge, Ridley Park, vice-president; Dr. Linnaeus Fussel, Media, secretary; Dr. Daniel W. Jefferis, Chester, treasurer; Dr. Maurice A. Neufeld, Chester, reporter, and Dr. Samuel Trimble, Lima, librarian.

OPHTHALMOLOGICAL AND OTOLOGICAL SOCIETY OF WASHINGTON (D.C.).—The thirty-fifth session was held at the residence of Dr. William H. Fox, January 9, Dr. Stephen O. Richey, president, in the chair. Papers were read by Dr. William H. Fox on "Retinal Hemorrhage," and by Dr. Anton Coe on "The Use of Electricity in Ophthalmic and Aural Practice." Both were fully discussed by the members.

CUMBERLAND COUNTY (Pa.) MEDICAL SOCIETY.—At the meeting in Carlisle, January 8, the following officers were elected: Dr. Milton M. Dougherty, Mechanicsburg, president; Drs. George C. Borst, Newville, and David W. Camp, Plainfield, vice-presidents; Dr. Hildegarde Longsdorf, Carlisle, secretary; Dr. Enos K. Lefever, Boiling Springs, corresponding secretary, and Dr. John W. Bowman, Lemoyne, treasurer.

EASTERN OHIO MEDICAL ASSOCIATION.—This Association met at Steubenville, January 8, and elected Dr. Samuel B. McGavran, Cadiz, president; Drs. Walter S. Spence, Germano, Arthur B. Holland, Wellsville, John A. Hobson, Flushing, and Robert Laughlin, Steubenville, vice-presidents; Dr. James C. M. Floyd, Steubenville, corresponding secretary, and Dr. Joseph F. Purviance, Steubenville, recording secretary.

MIDDLESEX SOUTH DISTRICT (Mass.) MEDICAL SOCIETY.—The golden anniversary of this Society was held in Boston, January 16. The following officers were elected: Dr. Charles H. Cook, Natick, president; Dr. Eugene G. Hoitt, Marlboro, vice-president; Dr. Albert August, Cambridge, secretary; Dr. Walter Ela, Cambridge, treasurer; Dr. E. Scott Dow, Allston, librarian, and Dr. Alfred Worcester, Waltham, commissioner of trials.

BURLINGTON COUNTY (N. J.) MEDICAL SOCIETY.—At the annual election held in Mount Holly, January 18, the following officers were chosen: Dr. William P. Melcher, Mount Holly, president; Dr. Irving Hollingshead, Moorestown, vice-president; Dr. Addison W. Taylor, Beverly, secretary; Dr. Enoch Hollingshead, Pemberton, treasurer; Dr. Irene D. Young, Bordentown, historian, and Dr. Richard H. Parsons, Mount Holly, censor.

ALLEGHENY COUNTY (Pa.) MEDICAL SOCIETY.—At the quarterly meeting held in Pittsburg, January 15, the following officers were elected: Dr. John S. Mabon, Allegheny, president: Dr. Ferdinand Koeller, Pittsburg, vice-president; Dr. Clyde O. Anderson, Pittsburg, corresponding secretary; Dr. Edward Stieren, Pittsburg, recording secretary; Dr. Ewing W. Day, Pittsburg, treasurer, and Dr. Edward B. Heckel, Pittsburg, censor.

Lehigh County (Pa.) Medical Society.—The annual meeting and banquet were held at Catasauqua, January 8. The following officers were elected: Dr. Martin J. Backenstoe, Emaus, president; Drs. Albert J. Erdman and William W. Eschbach, Allentown, vice-presidents; Dr. Philip L. Reichard, Allentown, recording secretary; Dr. James L. Hornbeck, Catasauqua, corresponding secretary, and Calvin J. Otto, Allentown, treasurer.

Lycoming County (Pa.) Medical Society.—At the annual meeting, held at Williamsport, January 11, Dr. Joseph W. Albright, Muncy, was elected president; Dr. Robert H. Milnor, Warrensville, vice-president; Dr. Charles M. Adams, Williamsport, secretary, Dr. Wesley F. Kunkle, Williamsport, treasurer, and Dr. Horace G. McCormick, Williamsport, censor, Delegates to The American Medical Association and the State Medical Society were also appointed.

Berks County (Pa.) Medical Society.—At the annual meeting held in Reading, January 8. Dr. Samuel S. Hill, Wernersville, was elected president; Drs. Fremont W. Frankhauser, and Adam B. Dundor, Reading, vice-presidents; Dr. S. Banks Taylor, Reading, corresponding secretary; Dr. James W. Keiser, Reading, recording secretary, and Abraham S. Raudenbush, Reading, treasurer. Delegates to The American Medical Association were appointed on this occasion.

Cleveland (Ohio) Medical Society.—At the ninth annual meeting, held January 11, the retiring president, Dr. Henry S. Upson, in his address, strongly recommended that the medical societies of the city be merged into one and that the medical library building be the general headquarters. Dr. Charles F. Hoover was elected president; Dr. Henry W. Rogers, first vice-president; Dr. Robert Pollock, second vice-president; Dr. John N. Lenker, secretary, and Dr. John M. Ingersoll, treasurer.

Will County (Ill.) Medical Society.—At the meeting January 15, a committee was appointed, consisting of the president, Dr. Minnie K. Bowles, and the secretary, Dr. Ezra R. Larned, to consult with the senator and state representatives from this district regarding medical legislation in favor of needed reforms. The committee will choose a third member to act with it. Dr. Minnie K. Bowles, Joliet, was elected president; Dr. Roland H. Henry, Peotone, vice-president, and Dr. Ezra Reed Larned, Joliet, secretary and treasurer.

Texas Central Medical Association.—The fifteenth annual session of this Association was held at Fort Worth, January 8 and 9. The following section chairmen were selected: Dr. M. P. McElhannon, Belton, general medicine; Dr. William T. McNeill, Valley Mills, surgery; Dr. Scurry L. Terrell, Dallas, ophthalmology and otology; Dr. Hatch W. Cummings, Hearn, neurology and medical jurisprudence, and Dr. Frank D. Thompson, Fort Worth, obstetrics and gynecology. Dr. Nelson A. Olive, Waco, was elected president; Drs. Edgar D. Capps, Fort Worth, and William B. Anderson, Brownwood, vice-presidents, and Dr. William R. Thompson, Fort Worth, secretary-treasurer. Temple was selected as the next place of meeting.

CHICAGO NEUROLOGICAL SOCIETY.

Regular Meeting held Dec. 20, 1900.

Dr. Hugh T. Patrick, vice-president, in the chair.

Hematology of Neurasthenia.

Dr. Charles F. Lodor presented the results of a study in the hematology of neurasthenia. The article will appear in The Journal.

Polioencephalitis Superior.

Dr. Archibald Church reported a case of this affection in a male 31 years of age. The patient was a cashier and had been married five years, with no children. The family history presented several cases of tuberculosis; otherwise it was negative. The personal history was also without notable incident, and venereal history was denied. For several years, however, he had used alcohol and tobacco freely, working very hard, with short hours of sleep, but considerable outdoor athletic exercise. Aug. 19, 1899, in a very hot sun, he played golf all day, without any head covering. His forehead, face and scalp were severely burned and the hair bleached by the sun. On the second day thereafter he noticed dimness of vision in both eyes, was compelled to hold a book at a distance, and there was also a little double vision. Examination of the eyes by competent oculists failed to detect any trouble in the fundus. There was, however, a tendency to outward squint and some rigidity of the pupils. He was given mercury by inunctions. Two weeks later he came under observation, showing a slight ptosis on the left side, outward deviation of both eyes, and the pupils rigid to light and accommodation. Headache, vomiting, dizziness and other subjective disturbances were absent. The temperature, pulse, respiration, urine and blood were normal. He showed a little tendency to oversleep and, during the day, would drop asleep while driving. He also impressed others as being a little indifferent to subjects of ordinary interest, and was so as to the gravity of his condition. After twenty daily inunctions, a slight amount of disturbance appeared in the gums and the mercury was discontinued. On the thirtieth day after the onset of the symptoms, his speech was a little muffled and there was some incoördination when walking with the eyes closed. The tendon reflexes, which previously had been normal, showed increase, and there was a slight ankle-clonus on each side. During the night he had involuntary urination. On the thirty-first day the divergent squint subsided, apparently through paresis of the external recti or involvement of the nuclei of the sixth nerve, and the pupils commenced to dilate. Vision for distance was still normal, but there was no accommodative capacity and the pupils responded to neither light nor accommodation. Static ataxia was decidedly pronounced. The temperature had a slight subnormal tendency. There was mental hebetude. On the thirty-second day he was unable to stand, his pupils were dilated to the maximum, the eyes perfectly immobile, and ptosis on both sides partially developed. The temperature ran up to 100.2 F. The next day double ptosis was complete and reflex excitability greatly increased so that the patient was almost tetanized as he lay apathetically in bed. Babinski's sign was noted on both sides. The temperature was 101.2, and the pulse 120. The next day all conditions were worse and there was some difficulty in swallowing, with coma most of the day. The following day the temperature rapidly ascended to 108 F. with, at the same time, a falling pulse, and he died after twenty-four hours of absolute coma.

The post-mortem examination was absolutely negative, except that there were healed foci of tuberculosis in each apex, about as large as a walnut. An examination of specimens and serial sections was made by Dr. Fütterer, showing areas of more or less well-outlined softening in the corpora quadragemina, pons, peduncles, internal and external capsule, principally on the right side. The area in the external capsule involves the claustrum in its anterior portion, with an upward extension to the lower level of the cortex. The lesions in the peduncles are confined to their lower parts and are small, while others involve the nuclei of the oculomotoris, trochlearis and abducens. Changes are decidedly inflammatory and blood-vessels thickly surrounded by masses of leucocytes appearing in the midst of areas of degeneration. Here and there is also well-developed hyaline degeneration of the walls of the blood-vessels.

Dr. Church called attention to the fact that a series of cases showing graduations between acute polioencephalitis and asthenic bulbar paralysis or myasthenia gravis could be adduced from experience and the literature, and that in this case the sequence of events might perhaps be considered as follows: A tubercular lesion inducing some hyaline degeneration in the cerebral vessels; subsequently traumatism in the shape of sunburn; the action of toxic or infectious agencies producing inflammatory changes in an area of lowered resistance, and polioencephalitis with additional foci of inflammatory disturbance.

Dr. Church, in the formal discussion which followed his paper, suggested the possibility of a series of pathologic conditions in which polioencephalitis formed one end and myasthenia gravis the other.

Dr. Sanger Brown thought that this could hardly be the case, as the tendency of myasthenia gravis is toward recovery.

Dr. Hugh T. Patrick agreed with Dr. Church, and showed sections from a case which apparently occupied middle ground between the two conditions mentioned. His sections through various areas of the cerebrospinal axis everywhere showed vast engorgement of the capillaries and possibly some early degeneration of cells, the patient dying before further destruction had taken place.

CHICAGO PATHOLOGICAL SOCIETY.

Regular Meeting held January 14.

President L. Hektoen in the chair.

Tissue Changes from Diplococcus Scarlatinae.

Dr. E. R. Le Count made a report on the histologic changes found in the tissues of animals inoculated with diplococcus scarlatinæ (Class). The changes described differ only in degree from those described by Pearce and others in persons who die from scarlet fever, the most notable difference being the lack of lesions in the kidneys in the animals. Hyperplasia of lymphoid tissue, focal necroses and plasma cells in situations that betoken their presence in the blood were found in the animals inoculated.

Dr. W. H. Wilder read a paper on "Tuberculosis of the Iris," and showed specimens from a case observed by him.

Drs. D. R. Brower and H. Gideon Wells reported a case of paralysis of the cranial nerves of the left side, from the fifth to the twelfth inclusive. This paralysis had come on in the course of a few months and then remained stationary for twelve years. At no time were there pressure symptoms. On account of the history. coupled with a slight improvement under iodids and the occurrence of twelve miscarriages, a syphilitic lesion involving the meninges and producing an infranuclear paralysis was diagnosed. Death resulted from nephritis. At autopsy a tumor was found in the dura, exactly as located clinically, involving the left petrous bone. Microscopically it was found to be an endothelial tumor, the periendothelioma of Borrmann, with some spiculæ of bone and many multinuclear and uninuclear giant cells. Microscopically it somewhat resembled a psammoma.

Periosteal Chondrosarcomas.

Dr. Paul F. Morf presented gross and microscopic specimens of three periosteal chondrosarcomas. One of the tumors was from a boy of 13, and had developed on the tibia shortly after a contusion of that bone. The other two occurred in young adults, one in a female, aged 21 years, and the last in a male, aged 19 years. These two latter tumors were found to have grown from the lower end of the femur. Microscopically the neoplasms all appeared as firm, hard, inelastic, grayish-white masses. Scattered throughout their substance were numerous islets, which looked to the naked eye, like hyaline cartilage. Disseminated foci of calcification of pinhead size gave the cut section a slightly rough surface. Microscopically the tumors were found to be made up mainly of round and spindle-shaped sarcoma cells. The islets which appeared cartilaginous were made up of larger and smaller round encapsulated cells lying in a hyaline and in a fibrous intercellular substance. In the first of the three specimens the invasion of the Haversian canals of the tibia by sarcoma cells could be plainly traced.

NEW YORK ACADEMY OF MEDICINE.

Meeting of the Section on Surgery, held January 14.

The Field of Ethyl Chlorid Narcosis.

Dr. Martin Ware, in a paper on this subject said he had been able to collect records of 11,207 cases in which this form of narcosis had been employed. He had personally tested it in 200 cases of minor surgery, using as an inhaler the ordinary mouth-piece of the nitrous oxid gas apparatus, with the gas tube tightly plugged with cotton. The ethyl chlorid used was that known as the monochlorid, and it was best and most economically administered by an imitation of the drop method, i. e., spraying it intermittently on the gauze. Anesthesia usually occurs abruptly after one or two minutes, and except in neurotics and alcoholics, without struggling or excitement. In children, particularly a fair degree of relaxation was secured, which was more than could be said for adults anesthetized in this manner. From five to six grams were ordinarily required to produce anesthesia. Ethyl chlorid, when thus given, is cheaper than its chief competitor, nitrous oxid, and has the advantage of requiring no bulky apparatus.

Dr. Willy Meyer said that for the past two years he had been using ethyl chlorid in connection with the Schleich mixture of chloroform and ether, and had been much pleased with the results.

Dr. James P. Tuttle said that he had used ethyl chlorid as a preliminary to ether anesthesia in about 250 cases, and with such happy results that he believed this would be in the future its chief field of usefulness.

Meeting of the Section of Medicine, held January 15.

The Mosquito-Malaria Theory.

Dr. W. N. Berkeley read a paper entitled "Some Further Work on the Mosquito-Malaria Theory, with Remarks on the Conditions Around New York." Out of a large number of malarial patients examined during the summer, he had found only one who had apparently developed the malaria on Manhattan Island. As to the period of incubation between the bite and the chill, one case was presented in evidence, that of an intelligent woman living in East Seventieth street. She had not been away from New York City, but had spent one night with a sister at Fordham, and had there been bitten by mosquitoes. Just fourteen days later she had had her first chill. and her blood had been found swarming with the tertian malarial parasite. Inquiry showed that a number of members of this sister's family had suffered from malaria and had been relieved by taking Warburg's tincture. Last summer several cases of typical tertian malaria had developed in a town near New York City. Inquiry showed that they had been grouped around a pond, and that there were a number of segregated pools and post-holes at the edge of this pond. It had been suggested that, as far as possible, all anopheles found in that vicinity be destroyed systematically, and the smaller breeding-places be filled in. In addition screens were provided for the houses. It was recommended that the malarial patients should be secluded, and protected from the bites of mosquitoes as long as the malarial parasites remained in the blood. These suggestions had been carried out, with a most satisfactory result, not a single new case developing in that locality. The speaker was of the opinion that the board of health of Greater New York should require malarial cases to be reported like scarlet fever and diphtheria. An inspector should be sent to every infected house to instruct the people to kill the mosquitoes therein, provide screens for the windows and doors. protect the patients with netting and fill in neighboring pools of water, or else have them heavily petrolized. He was doubtful whether anopheles could be completely exterminated in this city because of the tearing up of the streets and the many sunken blocks, yet he was positive that much could be accomplished in this direction.

Treatment of Influenza.

Dr. William H. Thomson read a paper on this subject. He attributed the mild type of the present epidemic of la grippe to the fact that most of the people had previously had this disease, and had probably in this way acquired a certain degree of immunity. He had had the greatest success in its treatment by the following combination: 1/6 grain of the solid extract of aconite, 1 grain of Dover's powder, 8 grains of phenacetin and 6 grains of quinin. This is to be made into two pills, and 6 are to be taken daily so long as there is fever, and then the dose reduced to three a day until all catarrhal symptoms have disappeared. The obstinate paroxysmal cough so commonly observed after an attack of la grippe he had found to yield to a dose of 10 grains of antipyrin and 20 grains of bromid, and also to be greatly benefited by irrigation of the nose and throat with one quart of hot water in which has been dissolved 2 drams of chlorate of potash and 5 drops of the oil of peppermint. Perhaps one of the most important things to remember is that as soon as attacked with la grippe a person should take to bed and remain there until further orders from his physician.

Dr. Andrew H. Smith said that in a few instances he had been able, with the laryngoscope, to obtain a view of the bifurcation of the trachea in persons afflicted with the distressing cough that follows an attack of la grippe. He had found a velvety condition of the mucous membrane at this point. In efforts to relieve this cough his chief reliance had been on the internal administration of malto-yerbin. The physician should instruct his patients regarding the necessity of respecting the languor which they feel.

Dr. James K. Crook suggested that persons who were susceptible to bronchial affections should, whenever practicable, leave a region infected with influenza, and that where this could be done, as well as in those predisposed to infection with la grippe by reason of the exposure incident to their occupation, they should take small doses of whisky and quinin daily. For the first acute symptoms he makes use of 5 grains of phenacetin and 20 grains of bromid of sodium, at intervals of five hours. The severe muscular pains seemed to be best relieved by an occasional Turkish bath.

Dr. Morris Manges said that in la grippe cases he had almost invariably found, on auscultation, fine dry râles over the base of the lung posteriorly. A warm moist compress around the chest made these patients very comfortable. To avoid re-infection the patient should not remain too long in one room.

Dr. Brandreth Symonds said that in the early and severe epidemics of influenza the life-insurance examiners had been surprised to find that in as many as one in every ten persons, apparently healthy, and applying for life insurance, albuminuria was present. For the most part, this was transitory.

Dr. A. Rose spoke highly of the beneficial effects of the carbonic acid bath and the nasal douche of this gas in cases of la grippe.

Stated Meeting held January 17.

The Value of the X-Ray in Medicine and Surgery.

Dr. Francis H. Williams, of Boston, considered the x-ray in medicine, illustrating his remarks. He said that he uses in his x-ray work, a static machine having eight plates, each six feet in diameter, and with an adjustment by means of which the intensity of the light could be varied in order to bring out certain minute details that might otherwise wholly escape the observer. The patient is seated in a chair or placed on a stretcher, and the light placed about three feet from the fluorescent screen. Special care is taken that the source of light shall in every case be at a point corresponding to the intersection of a line joining the nipples and the median line of the body. In cases of emphysema the thorax appears lighter than normal, and the heart changes its position but slightly. In early tuberculosis the excursions of the diaphragm are shortened on the affected side, the heart drawn over a little to that side and there is a distinct increase in density. Not infrequently, as for example in cases of central pneumonia, consolidation of the lung is very evident on an x-ray examination, though it can not be detected by percussion and auscultation. An x-ray examination is very useful in cases of suspected aneurysm or new growths in the chest. Out of thousands of examinations he had not met with a single case of x-ray dermatitis.

Dr. Robert Abbe discussed the subject from the standpoint of the surgeon. In his experience x-ray examinations had proved most helpful in connection with fractures of the shoulder and injuries about the elbow. It had been the means of adding to our knowledge many new varieties of Colles' fracture, and enabled the surgeon to do far better work in this class of injuries. At the present time it is not a difficult matter to secure a good radiograph of fractures of the cervical vertebræ. He had found the method disappointing as a guide to bullets situated deeply in the tissues, owing to the difficulty of ascertaining the exact plane in which the bullet lies. It was very helpful, however, in the removal of needles.

Dr. Charles L. Leonard, Philadelphia, discussed "The Value of the x-ray in the Detection and Exclusion of Renal and Ureteral Calculi." In four of the patients he had examined there had been calculi in both ureters. Even the most minute calquli are capable of detection by this method, as was abundantly proved by the radiographs exhibited. The reading of the negative was, however, often the most difficult part of the diagnosis. The possibility of ascertaining the exact size and position of a calculus made it possible to estimate the chances of calculi being discharged spontaneously, and sometimes warranted the postponement of operative intervention. In 136 cases in which he had used the x-ray, renal calculi had been found in 17 and ureteral calculi in 19 cases.

Mr. E. W. Caldwell discussed "the Technique and Correct Interpretation of Radiographs." He said that the static machines are well adapted for fluoroscopic work and give a steady excitation of the tube, but if of sufficient power they are cumbersome and not very reliable. The most generally useful source for the x-ray is an induction coil capable of giving a ten-inch spark, provided with what is known as a *fluid interruptor*. At the patient's house, if a direct current electric lighting circuit is available, he makes use of this form of apparatus, but if there is no such circuit he passes a *lamp-cord out of the window* and connects it with the battery of an electric cab standing in the street. In making a radiograph of the thorax the chest should be strapped and the patient directed to employ abdominal breathing as much as possible. Similarly, in taking a radiograph of the abdomen, the latter should be bandaged and the patient told to breathe chiefly with the chest.

Dr. Walter B. James said that from a somewhat limited experience with the method in internal medicine, he felt that many general practitioners might very profitably make use of this new method of precision.

Dr. Carl Beck showed some skiagraphs of biliary calculi in the living subject—the first of the kind ever made. A "hard" tube and a coil giving a 15-inch spark should be employed for such work.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, January 19.

1 *A Peculiar Case of Migratory Foreign Body, With X-Ray Illustrations. D. Braden Kyle.
2 *Two Cases of Hemarthrosis of the Knees.* Russell A. Hibbs.
3 Report of Two Cases of Dermoid Cyst of the Nose. H. S. Birkett.
4 *The Method of Examination of Infants. C. Herrman.
5 A Case of Paroxysmal Hemoglobinuria. William J. Lamson.
6 *General Anesthesia: The Preliminary and After-Treatment. With Remarks on Chloroform and Ether. E. Payne Palmer.
7 Gastric Ulcer: Report of Two Cases. E. S. Goodhue.

Philadelphia Medical Journal, January 19.

8 An Abstract of the Report Upon the Epidemic of Pest in Japan from November, 1899, to January, 1900. S. Kitasato, T. Takaki, K. Shigo, and G. Moriya.
9 *On Perforation and Perforative Peritonitis in Typhoid Fever. William Osler.
10 *Hemoglobinuria Complicating Typhoid Fever. John H. Musser and Aloysius O. J. Kelly.
11 *The Clinical Use of Thermol in Typhoid Fever at the Atlantic City Hospital, Atlantic City, N. J. A. B. Shimer.
12 Two Cases of Localized Neuritis Occurring as a Complication of Typhoid Fever. H. J. White.
13 *The Phenomena of Atropin Poisoning Following the Cessation of the Respiratory Movements. Edward T. Reichert.
14 Report of a Case of Cholelithiasis With Formation and Rupture of an Abscess of the Abdominal Wall. J. H. Gibbon.
15 A Case of Mirror-writing and of Diffuse Hypertrophy of Both Breasts in an Epileptic Negress. W. G. List.

Medical Record (N. Y.), January 19.

16 *The Mosquito Theory of the Transmission of Yellow Fever, With Its New Developments. Charles Finlay.
17 *Notes on Ovarian Grafting. Robert T. Morris.
18 Case of Thrombophlebitis of the Left Sigmoid Sinus Masking a Latent Brain Abscess in the Left Temporo-Sphenoidal Lobe, Both Arising from Chronic Otitis Media. Carl Koller.
19 *Subarachnoid Cocainization in Obstetrics and Gynecology: a Report of Twenty-one Cases. N. J. Hawley and F. J. Taussig.
20 *Important Points in the Management and Treatment of Consumption. Charles R. Upson.

Medical News (N. Y.), January 19.

21 *Conclusions Formed After Six Years' Experience With the Antitoxin Treatment of Diphtheria. Henry F. Koester.
22 *Problems in the Etiology, Diagnosis and Treatment of Tuberculous Disease of the Upper Air-Passages. Jonathan Wright.
23 Notes on the Interesting Cases of a Month's Dispensary Practice. William L. Stowell.
24 A Case of Adiposis Dolorosa. Ellice M. Alger.

25 Ligation of the Internal Jugular Vein Followed by Thrombosis of the Lateral and Sigmoid Sinuses. Charles G. Levison.

Boston Medical and Surgical Journal, January 17.

26 Dedication of the New Building of the Boston Medical Library. Addresses by David W. Cheever, James R. Chadwick, F. W. Draper, Remarks by William Osler, J. S. Billings, H. C. Wood, Henry P. Walcott, and Letter by S. Weir Mitchell.
27 *Note on the Treatment of Epidermoid Cancer by the Roentgen Rays. Francis H. Williams.

Cincinnati Lancet-Clinic, January 19.

28 Influenza or La Grippe. Charles F. Hope.
29 "Was Death Due to Chloroform?" J. F. Baldwin.
30 An Improved Rectal Speculum. L. J. Krouse.

St. Louis Medical Review, January 19.

31 *"Appendicitis"—Is Its Diagnosis Always Easy? Is Its Treatment Settled Beyond Question? J. L. Wiggins.
32 Tuberculous Disease of Some Joints and a Résumé of Its Surgical Treatment. Louis J. Hirschman.

Medical Fortnightly (St. Louis), January 10.

33 Observations Based on the Probable Mode of Formation of Urinary Stone to Its Recurrence and Prevention. Reginald Harrison.
34 Anatomy of the Eye. James E. Free.
35 Diseases of the Lung and Pleura. (Continued.) Albert Abrams.
36 General Peritonitis. Carl E. Black.
37 Some Suggestions on the Treatment of Infected Wounds and Ulcers. Erasmus McGinnis.

Medical Age (Detroit, Mich.), January 10.

38 Gangrene. W. A. Hackett.
39 *Subacute and Chronic Seminal Vesiculitis. Jos. E. Morrow.
40 *The Physiological Test—Talks with Medical Men. T. Mabem.

Pediatrics (N. Y.), January 1.

41 *On the Causation of the Congenital Stridor of Infants. John Thomson and A. Logan Turner.
42 *A Study of the Plantar Reflex in Infancy. John Lovett Morse.

The Canadian Practitioner and Review (Toronto), January.

43 The Treatment of Tuberculosis in Sanatoria. P. H. Bryce.
44 The Preventive and Curative Treatment of Pulmonary Tuberculosis. Geo. H. Hodge.
45 Screw Nails in Fractures. A. Groves.

Archives of Otology (New Rochelle, N. Y.), December, 1900.

46 *Shall the Antrum Be Opened in All Acute Empyemas of Mastoid Cells? E. F. Snydacker.
47 *Contributions to the Normal and Pathologic Histology of the Pharyngeal Tonsil. Friedrich Wex.
48 *Aural Complications of Scarlet Fever. With Twelve Postmortem Observations. Bernhard von Gaessler.
49 An Analysis of Rinne's Experiment. Prof. Bezold.
50 A Clinical and Histological Contribution to the Sarcomatous Tumors of the Temporal Bone. F. J. Hegener.
51 Report of Three Cases of Ligation of the Internal Jugular for Septic Thrombosis, Following Purulent Otitis Media—Recovery. Edward Bradford Dench.
52 Report on the Progress in Otology for the Second Quarter of the Year 1900. A. Hartmann.

Journal of Comparative Neurology (Granville, Ohio), December, 1900.

53 The Giant Ganglion Cells of Catostomus and Coregonus. J. B. Johnston.
54 Arrangement and Terminations of Nerves in the Esophagus of Mammalia. Lydia M. DeWitt.
55 The Vibrissæ of Certain Mammals. J. Franklin Messenger.
56 The Ophthalmic and Eye Muscle Nerves of the Cat Fish (Ameiurus). I. S. Workman.
57 On the Homologies of the Chorda Tympani in Selachians. H. A. Green.

Cleveland Journal of Medicine, January.

58 *The History of Typhoid Fever. H. D. Haskins.
59 *The Etiology of Typhoid Fever. W. T. Howard, Jr.
60 *The Diagnosis of Typhoid Fever. Charles F. Hoover.
61 *Prognosis in Typhoid. H. W. Rogers.
62 *Management of Typhoid Fever. H. J. Lee.
63 *Feeding in Typhoid Fever. Edward P. Carter.
64 *Sequels of Typhoid Fever. O. T. Maynard.
65 A Case of Uterus Bilocularis or Uterus Septus. F. E. Bunts.
66 Polypoid Tumor of the Rectum. J. T. Smith.

Peoria Medical Journal, January.

67 Notes from a Berlin Clinic on Diseases of the Stomach. Roy Sexton.
68 Ether or Chloroform: Which? William R. Allison.

Medical Council (Philadelphia), January.

69 Disorders of the Sexual Functions in Man. A. H. P. Leuf.
70 *Some Phases in the Treatment of So-called Uric Acid Lesions. Alfred C. Croftan.
71 The Female Bladder. A. L. Russell.
72 An Interesting Case of Diphtheria. Eugene P. Bernardy.
73 Gonorrhea and Marriage. (Concluded.) C. C. Mapes.
74 Sarcoma of the Neck: Successful Operation. William L. Rodman.
75 Preliminary and Minor Railway Surgery. J. M. Salmon.
76 Association Neuroses. J. F. Ritter.
77 Climate in Medicine. John Stolze.
78 Sulphur. W. O. Bunnell.
79 The Injection Method for the Relief and Cure of Hernia. (To be continued.) C. Fletcher Souder.
80 Low Temperature of 93.4 Following Miscarriage Incident to Typhoid Fever. G. L. Woods.

Occidental Medical Times (San Francisco), January.

81 Some of the Accidents from the Use of the Obstetric Forceps. Henry Gibbons, Jr.
82 Anemia in Its Relation to Surgery. H. Kugeler.
83 Plague in San Francisco. W. H. Kellogg.
84 Asphyxia Neonatorum. Wm. Himmelsbach.
85 Gunshot Wounds of the Skull. T. C. McCleare.
86 Extrauterine Pregnancy. A. H. Pratt.

Chicago Clinic, December, 1900.

87 Pharmacology of Alkaline Medication. J. A. Patton.
88 *Personal Observations and Comments on Bad-Nauheim and the Schott Treatment. C. Turner.
89 Intubation and Tracheotomy. Aime Paul Heinecke.
90 Does Thiallon Take the Place of Calomel. R. A. Meath.

Medical Summary (Philadelphia), January.

91 Nasal Hygiene. Edwin W. Pyle.
92 Sexual Perversions. (To be continued.) Drs. Pennebaker *and Tripp*.
93 The Treatment of Sick Headache. David L. Saunders.
94 Hematuria. Geo. J. Monroe.
95 Gunshot Wound of the Pericardium. Drs. Dwight and Cobb.
96 Tonsillitis. (Continued.) A. Sandner.
97 Hematuria As It Is—Reply. Ben. H. Brodnax.
98 Gonorrhea. S. A. Buchanan.
99 Beginning Muscular Atrophy, Following Strain. Burton W. Swayze.
100 Catarrhal Pneumonia. E. N. Ritter.

Denver Medical Times, January.

101 Foreign Bodies in the Esophagus. George W. King.
102 *Practical Points on the Feeding of the Sick. E. A. Irwin.
103 *Mastoiditis. When Does the Disease Begin and When Shall We Operate? T. D. Tuttle.
104 Double Operation for Undescended Testicles. B. C. Brooke.
105 *Malpractice Suits and the X-Ray. Rudolph Horsky.

American Medical Compend (Toledo, Ohio), January.

106 The Early Diagnosis of Gastric Cancer with a View to Its Radical Cure. G. W. McCaskey.
107 Diabetes Mellitus. C. Storz.

Louisville Monthly Journal of Medicine and Surgery, January.

108 *Some More Fallacies in the Practice of Diseases of the Rectum. Jos. M. Matthews.
109 Menorrhagia. H. A. Davidson.
110 *Neurasthenia: A Clinical Lecture. Curran Pope.
111 Medical Observations Abroad. (Continued.) August Schachner.
112 Treatment of Lithemia. Frank M. Floyd.

Canada Lancet (Toronto), January.

113 An Historical Sketch of Canadian Medical Education. (To be concluded.) Walter B. Geikie.
114 A Case of Tubercular Meningitis with Recovery. P. L. Scott and J. T. Fotheringham.
115 A Case of Asthma Associated with Prolapse of Liver. H. B. Anderson.

Indiana Medical Journal (Indianapolis), January.

116 *On the Importance of Pathological and Bacteriological Laboratories in Connection with Hospitals for the Insane. Lewellys F. Barker.
117 *What Is "Constitution" as Applied to Medical Practice? Guido Bell.
118 Tracheotomy for a Foreign Body in the Larynx. J. C. Sexton.
119 *Hyperpyrexia—Report of a Case in Which the Temperature Reached 113 F. J. C. Alexander.

Hot Springs Medical Journal, January.

120 *What Is Normal Menstruation. Geo. J. Engelmann.
121 *An Operation for the Treatment of Marked Rectal Prolapse in Women. J. Wesley Bovée.

Kansas City Medical Index-Lancet, January.

122 *The Value of the Hot Decinormal Salt Solution as a Therapeutic Agent.
123 Medicine an Inexact but Progressive Science. Fred S. Clinton.
124 Some Remarks on Lobar Pneumonia. Robert T. Sloan.
125 Cerebral Hemorrhage (Apoplexy). John Punton.

Memphis Medical Monthly, January.

126 Water. C. Travis Drennen.
127 Ectopic Gestation, with Report of Cases. J. P. Runyan.
128 The Management of Crossed Eyes in Children. E. C. Ellett.
129 "Dr. Jekyll and Mr. Hyde" (Insanity, etc. Cases of). N. F. Raines.

130 Pylorectomy for Malignant Obstruction. Hysterectomy for Primary Cancer of Cervix Uteri in a Nulliparous Woman. William W. Taylor.
131 A Further Note on the Rôle of Purulent Rhinitis of Childhood in the Production of Atrophic Rhinitis. Richmond McKinney.

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132 Chemical Methods as Applied to the Diagnosis and Therapy of Stomach Diseases. Seth M. Morris.
133 The Physician in His Relation to the Public and to His Professional Brethren. S. Burg.
134 Vesical Calculus, Report of an Interesting Case—Perineal Lithotomy, Recovery. H. A. Barr.
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136 Remarks upon the Treatment of Acutely Inflamed Guts. R. E. B. Bledsoe.

AMERICAN.

1. **Migratory Foreign Body.**—Kyle reports a case of attacks of frightful neuralgic pain occurring at intervals at different sites, at one time, suggesting mastoiditis, again facial neuralgia, again ethmoiditis, etc. Between attacks there was absence of any symptoms enabling one to locate the disease. The X-ray used to locate the foreign body produced acute dermatitis twenty-four hours later, with falling of the hair, the bad results of which were, however, temporary. While attempts at location were unsatisfactory, it was believed that there was a needle or piece of metal under the skin and this was vainly searched for with a magnet. An opening was made in the antrum, unsuccessfully, but was followed by swelling, apparently like a boil; this finally opened and the needle was extracted. The way the foreign body entered the tissues is unknown. Kyle knows of no such case in the literature with the peculiar features here presented.

4. **Examination of Infants.**—Two things should be borne in mind, says Herrman, in making examinations: 1. What is normal to the infant as against older children and adults? 2. Are there any abnormalities in this particular case under examination not due to the present illness? If such exist they may be either congenital or resulting from previous disease, and as illustration he mentions a yellow spot on the throat which was congenital though taken for a diphtheritic patch. The various points noted are physical characteristics, growth, size, temperature which is much greater than in the adult, and percussion and auscultation of the chest, the special points of which can not be given here, as they are noted in too much detail. The pulse, examination of abdomen, spinal column, mouth and throat should always be looked after. The stomach, genitals, ear, urine, feces, etc., are also noticed.

6. **Anesthesia.**—Palmer summarizes the indications for chloroform as follows: 1. In extensive bronchitis, bronchorrhea, pneumonia, or any extensive inflammatory condition of the pulmonary tract, because of its causing less irritation of the mucous membrane and less mucus to be secreted. 2. In acute and chronic nephritis, because it is less irritating to the kidneys. 3. In aneurysm, atheroma, endocarditis, and high-tension pulse, because it causes a perceptible fall in the blood-pressure. 4. In operations on the brain, because it causes cerebral anemia, while ether causes congestion and venous oozing. 5. In operations in the abdominal and pelvic cavities, because it causes a more complete relaxation of the abdominal muscles. 6. In those addicted to the use of alcohol and narcotics, because they usually take ether badly. In the hands of the inexperienced it is most dangerous on account of its depressing effects on the heart and lowering of the blood-pressure. Its dangers are immediate as opposed to those of ether, which are mostly in its sequelæ. The signs of danger are relaxation of the pupils, pallor of the face, sudden and rapid failure of the pulse and the respiration becomes feeble and intermittent. If any of these appear, the mask should be removed at once, and if they reappear when chloroform is again administered, ether should be substituted. Chloroform should always be given with the patient in the recumbent posture, which should be retained during the entire operation. Ether can be given in the sitting posture when necessary. It is indicated: In empyema with dilatation of the right side of the heart, fatty degeneration of the heart muscles and dilatation of the heart without compensatory hypertrophy; in extreme prostration and anemia; in shock, collapse and hemorrhage. When given under the latter conditions, heat should be applied to keep up the body temperature, as under narcosis there is a fall of from one-third to 1 degree. Very stout subjects should be given ether, as fatty infiltration of the heart has been found after prolonged chloroform anesthesia. One great advantage is that it can be given by the unskilled anesthetizer with greater safety and at the same time allow anesthesia to be more profound. Respiration is to be watched closely, as it kills by paralysis of the respiratory center. Collapse rarely occurs without warning. The symptoms are shallow, gasping respiration; small, rapid and irregular pulse, dilated pupils. If it causes persistent cough, with excessive amount of mucus or undue vomiting we should substitute chloroform. Precautions should be used with ether in operating at night by artificial light, as its vapor is inflammable. He also cautions particularly in regard to the need of admitting air, and in not giving the anesthetic in too concentrated form, also against beginning the operation when anesthesia is incomplete. When complete the pupils should be moderately contracted and remain so, respiration deep and regular, and the pulse slow, though it may be rapid without danger unless it becomes weak and irregular. There should be a general muscular relaxation. The dilated immovable pupil indicates danger, and sudden wide dilatation of pupils calls for immediate measures. When vomiting seems to be inevitable we should remove the inhaler, lower the head and turn it to one side, and draw the jaw forward by pressing behind the angles. As soon as the patient is quiet we should cleanse the mouth and pharynx and then administer the anesthetic. Directions for resuscitation and stimulation are given, also the after-treatment. The patient should be continually watched until consciousness has been regained. If recovery does not occur within sufficient time, hot-water baths are indicated, and stimulants, and if much loss of blood has occurred normal saline solution should be infused. It is good practice to give a hot colon injection of about one quart of warm normal saline solution after prolonged operations. It lessens the thirst and shock, stimulates the kidneys and brings the patient out earlier and more satisfactorily. Vomiting should be treated by inhalation of fumes of vinegar as long as necessary. For the first twelve hours nothing should be allowed to enter the stomach.

9. **Perforation in Typhoid.**—Among the complications of typhoid, perforation is the most formidable, and Osler expresses the opinion that it is remarkable that it does not occur more frequently when we consider the extent and character of necrotic processes. The all-important question is to recognize its occurrence and, if possible, operate before widespread general peritonitis is produced. He reports several cases in which the accident occurred and where operation was performed, in one of which, however, it was incomplete, while in the other two it was a success. He gives a schedule of specific instructions to be followed in cases of typhoid fever in which perforation is suspected. He thinks if the attending physician would notice all these points much may be done to reduce the mortality. He gives detailed instructions concerning these cases, and the necessity of watching for the first feature of perforation is emphasized.

10. **Hemoglobinuria in Typhoid.**—In the cases reported by Kelly and Musser there was hemoglobinuria observed from the beginning and lasting for seven days. The progress of the disease was favorable. Aside from the rarity of the complication, other facts noticed are absence of malaria as an etiologic factor, and the use of cold-water baths with good results when it is known that cold is certainly the provoking agent of some cases of hemoglobinuria, especially the paroxysmal type. The authors think there can not be much doubt that the symptom was an unusual manifestation of typhoid infection; the case was not severe unless these symptoms should be considered in that connection. It is not unreasonable to assume that the patient had a peculiar idiosyncrasy, making his hemoglobin and red corpuscles especially susceptible to the action of typhoid toxins.

11. **Thermol.**—Shimer has experimented with thermol ($C_{11}H_{15}NO_3$) and reports cases with temperature curves showing its effect. He remarks that in each of these typhoid cases the temperature curve was markedly dissimilar to typical typhoid temperature, and the specific action of thermol on the fever is, he thinks, evident, from his observations in hospital cases as well as in private practice. He believes the earlier thermol is administered the better the result. As an antipyretic it is harmless and can be given at any time or under any conditions, any harmful effects such as collapse never being noted. The mode of administration is .5 gram at intervals of every two or three hours and to be given when the fever commences to rise, and continued even after it has disappeared, in smaller doses and at longer intervals.

13. **Atropin Poisoning.**—This experimental investigation of Reichert's gives the different stages of atropin poisoning, particularly as observed in the effects on the respiratory and vasomotor centers. The whole shows the extraordinary power of recovery of the system from the action of atropin. In one experiment recorded, 1.5 grams of atropin, or over six times the minimum fatal dose, was given in divided doses. Two hours after the first injection feeble respiratory movement occurred, there was a return of reflexes, the pulse-rate was higher than immediately after the first injection and arterial pressure had increased about four-fold. Fifteen minutes later respiratory movements were sufficiently frequent and deep to dispense with artificial respiration. In the second experiment over seven times the minimum fatal dose was given and the same strong general tendencies were manifest. Among other actions, the effects of large doses on the motor and sensory nerves are positive, both being completely paralyzed during the second period. A curious fact shown by these experiments was that while the motor fibers are absolutely inexcitable to faradic stimulus, they retain their conductivity. These experiments have an important bearing on the treatment of poisoning in man, as they show that death is due to paralysis of the respiratory center, that the center has great recuperative power, and that if artificial respiration be properly practiced the respiratory center recovers its activity, which is accompanied by general and marked improvement of the other depressed states. In man it seems that atropin poisoning should be readily treated with artificial respiration, persistently and intelligently practiced, as by Laborde's method, accompanied by such other treatment as the indications suggest.

16. **Mosquito Theory of Yellow Fever.**—Finlay reproduces a portion of an article, dated Dec. 31, 1891, which has never been published in full, though portions of it were sent to the congress at Chicago in 1892. He believes that the recent experience of the army yellow fever board has placed beyond the question of a doubt the fact that the culex mosquito, fasciatus, does transmit yellow fever to non-immune persons so well isolated from other sources that the infection could be considered a certain result of inoculation. He also thinks it noteworthy that these bear out one of his former statements, that, whereas one or two stings from a mosquito recently contaminated may cause a mild attack of the disease or simply confer immunity without any perceptible pathogenic manifestations, the severer attacks result from a greater number of such stings, and the same might follow a single sting from a mosquito exclusively fed, during several days or weeks after its contamination, on sugar or sweet juices. Another important point which the army board has noticed and has undertaken to demonstrate, experimentally, is the fact that the other sources to which the yellow fever has been hitherto attributed are absolutely incapable of determining the attack of the disease.

17. **Ovarian Grafting.**—Morris reviews the subject of ovarian grafting in detail. Cases are given, two of which have been previously reported, and in one of the cases, after transplanting a portion of the patient's ovary and excision of the remainder, the patient became pregnant, but lost the child by aborting in the third month, presumably because of the presence of persistent pelvic adhesions. In several other cases the ovaries were transplanted from one patient to another and menstruation re-established. In his earlier experiences the ovary was sometimes grafted into a slit in the fundus so that the uncut surface projected into the lumen of the uterus. In his later cases he has chosen the broad ligament as a site for grafting, as nearly as possible at the point that the ovary would normally occupy. The best result of ovarian grafting, in his experiments to date, is the avoidance of the menopause. Several successful pregnancies have been observed in rabbits by other experimenters, but we have yet to see a similar result in women as a result of the operation. The paper concludes with a review of the experiments of other investigators. The dangers from ovarian grafting seem to be no more than those from simple uncomplicated laparotomy.

19. **Spinal Cocainization.**—Twenty-one cases of subarachnoidean cocainization in obstetric and gynecologic cases are reported by Hawley and Taussig. The results tend to support the view that the method is not very dangerous, except perhaps to the child *in utero*. In 5 of the 21 cases the cocainization seemed to have a toxic action on the child. The pulse that was 140 would drop to 90 or 100 after the injection and, remaining so for about ten minutes, would begin to return to normal. Three times the child was somewhat asphyxiated when born. One child died, but death was not attributed to this, as it showed signs of weakness previous to the injection. In no case was there any post-partum hemorrhage. When it produces disagreeable symptoms they are usually transient. In labor cases it usually retards the progress. From a study of the cases the use of lumbar puncture in multiparæ would seem to be less called for than inhalations of chloroform. The results obtained from its use in primiparæ were not very encouraging. In instrumental deliveries, when urgency is required and the patient not of a very nervous temperament, the spinal narcosis seems to meet every indication. The delivery would then be much facilitated by the patient's aid, which would be impossible under general anesthesia, and the dangers of retained placenta and postpartum hemorrhages are lessened. The authors conclude that it is doubtful whether puncture will ever replace general narcosis in abdominal operations. In vaginal celiotomy and minor gynecologic work it seems to have its greatest field of usefulness.

20. **Pulmonary Tuberculosis.**—Upson thinks that the need of greater personal attention to consumptive cases is manifest, and if the general practitioner could give the same care to these that he does to his cases of pneumonia the mortality would be lessened. He lays little stress on heredity, and believes that when several members of a family contract the disease it can usually be traced to infection. Twenty-five years' experience has convinced him of the curability of many cases. If the disease is a localized one, or even in both lungs, and the digestion and assimilation are or can be made good, sleep is restful, the environments healthful, and the patient is possessed of a determination to get well, a favorable prognosis can be made. Examinations should be extremely careful and thorough if success in the treatment is to be expected. The special points in the treatment are noticed, the use of light, ventilation, disinfectants, care of the sputa, cleansing of the intestinal tract in the beginning, tonics, systematic exercise, cold sponging and attention to hygienic environments generally. The author is inclined to look favorably on intrapulmonary medication, the frequent use of a mixture of eucalyptol, pine-needle oil, menthol and formic aldehyde having proved in his hands the most beneficial of the remedies he has tried.

21. **Diphtheria Antitoxin.**—To obtain the best results from antitoxin Koester says it must be used fearlessly and in effective quantity, which is never less than 2000 units, and in severe cases at least 3000 must be used, and this dose repeated in from twelve to twenty-four hours. Antitoxin in itself never does any harm and a supply with an appropriate syringe should be a part of every physician's armamentarium whenever he goes to see a patient of whose condition he knows nothing. The dose is to be regulated by the severity of the disease and its duration. There are also other features to be considered and, in cases of diphtheritic croup, very large doses should be given, 4500 to 6000 units, and we should be ready to intubate

at a moment's notice. Another advantage is its immunizing action, thus enabling us to prevent the disease spreading. The accessory treatment is noticed and the effect of complications. The author believes that rash following the use of antitoxin is due to excrementitious salts in the cells of the horse's serum, and if they were eliminated its occurrence would be prevented. He says: 1. Antitoxin is a positive cure for diphtheria, when employed in sufficient quantity and sufficiently early in the disease. 2. Even when employed too late in the disease to produce its specific action, it can not under any circumstances be productive of harm. 3. When used before the invasion of diphtheria, antitoxin possesses a positive immunizing power which lasts about thirty days.

22.—See abstract in The Journal, xxxv, p. 1171.

27. **The X-Ray in Cancer.**—Williams states his conviction that the X-rays are of value in the treatment of certain forms of epidermal cancer. His experience indicates that we have either in the X-rays themselves, or in some other form of radiation from the Crooke's tube, a valuable therapeutic agent in epithelioma, the beneficial action of which may be brought about without causing a burn. The earlier the treatment is undertaken the better. It is not improbable that we may find its curative action limited to superficial growths, though as a means of relieving the painful features of disease in other forms it may be of some use. In cases where it is effective the odors disappear, discharge decreases and the growth steadily diminishes in size.

31. **Appendicitis.**—The conclusions with which Wiggins ends his article, and which he claims are incontrovertible, from surgical experience, are: 1. There is a period during the attack when, if properly investigated, most cases can be diagnosed. 2. In some cases the real condition may be so masked by intercurrent troubles as to require an explorative incision for its solution. 3. Some cases may be simple and some severe, but no one can state in any given case, no matter how simple to-day, what the conditions will be to-morrow. 4. There is a period in every attack when the appendix can be removed with perfect safety; and there may occur a time in any attack when life is jeopardized either with or without its removal. 5. The same judgment we exercise in ordinary business affairs, if applied to a diseased appendix, would suggest its removal at the earliest moment compatible with proper preparation.

39. **Vesiculitis.**—The anatomy of the seminal vesicles is described by Morrow and the pathology of their inflammation discussed. He recognizes three classes of this disease: 1. Those caused by sexual excesses or other sexual irritability. 2. The gonorrheal type. 3. The tuberculous, which may be combined with the gonorrheal. The development of this disease, unless it takes on the acute type, is insidious, but the suspicious symptoms are frequency of urination, feeling of fullness and stiffness of the parts, perineal pain, sacral pain, various disturbances of the sexual functions, bacteria in the urine, other sources having been excluded, etc. The diagnosis must be by exclusion of stricture, posterior urethritis, prostatitis, spermatorrhea, cystitis, and pyelitis, but the only really effective means is digital examination per rectum by the educated finger. The tuberculous type can not always be excluded, but the evidence of tuberculosis elsewhere will clear up the case. The prognosis is usually good if the patient is of middle age or good physique. In older persons and in tuberculous cases the prognosis is not favorable. The only treatment of simple and chronic vesiculitis is stripping the vesicles, the method of which is detailed. He advises against the use of too much force and the employment of special care in chronic cases to avoid hemorrhage. In most instances no other than this method is required. Occasionally it may be necessary to give potassium bromid as a sedative or tonic. The treatment may cover from six weeks to six months. The stripping should not be undertaken too soon after an attack, nor continued if it increases the tenderness. In the tubercular type it is almost invariably contraindicated and we should use only tonics and antitubercular remedies.

40. **Strophanthus.**—Mabem has taken the testimony of various physicians in regard to the action of strophanthus, and found a great variation of opinion, some finding it useless, others considering it an indispensable drug. In this connection he calls attention to the importance of physiologically testing drugs before their use. The failure to do so may incur serious disappointment and loss of faith in the remedy.

41.—See abstract in The Journal, xxxv, p. 1663.

42. **Infantile Plantar Reflex.**—Morse's article is a study of the statements of others who have observed this reflex in children, and apparently, also, his own observations. His conclusions are: "It is evident, therefore, that there is no constant plantar reflex during the first year, and that while the reflex approaches the adult reflex during the second year, it is still inconstant. It is also evident that since there is no constant reflex under normal conditions during the first two years, no conclusions can be drawn from the presence, absence or character of the reflex in the diagnosis of abnormal conditions of the nervous system at this age. Further observations are necessary to show at what age the normal reflex is established. It is undoubtedly later than the second year."

46. **Acute Aural Empyema.**—The question whether the antrum should be opened in acute empyema is considered by Snydacker, who reviews the various authorities. Operators in such conditions may be divided into two classes: 1. Those who open the antrum in all acute empyemas of the mastoid cells. 2. Those who open the mastoid cells without opening the antrum. Possibly a third may be added which occupies an intermediate position between the two. As an exponent of the second class he quotes Politzer, who finds in the majority of his cases no connection between the abscess and the mastoid antrum, and as an exponent of those who would open the antrum in all cases he quotes Schwartze, and as one of the intermediate class, Hessler. His own study as to the advantages of the two methods leads him to render a favorable opinion of the Schwartze treatment, though he asks: Is there a means by which we can combine the two methods? The rules which Urbantschitsch has laid down when the antrum is to be opened in acute empyema are sound, and an operator would be taking many chances to disregard them. If the meningeal symptoms are prominent, if the fistulæ lead toward the antrum, if the posterior wall of the meatus is bulged forward, or when signs of inflammation are localized in this region, then in every case the antrum should be opened. In answer to the question whether, when none of these symptoms are present, it is safe to leave the antrum alone, he says the operator, unless he makes a routine practice to open it, must ask himself: 1. Is it drained? 2. Has it undergone such pathogenic changes that it is a focus of infection? If he is in doubt as to either of these points he must open the antrum. What can or should be avoided, however, is useless curetting of the antrum and aditus. Every time the antrum is opened in acute empyema the first opening should be merely exploratory and as small as is consistent with exploration of the cavity. If there is no empyema of the antrum, no growths nor other pathologic changes, to open it wider and enlarge the cavity so that the abscess is constantly reinfecting itself would seem absurd. If when it is opened no pus wells up, and on careful examination with a probe and by inspection no pathogenic changes are found, then the relations of the parts should be disturbed as little as possible. In this way we can, to a certain extent at least, combine the advantages of the Politzer method with those of the Schwartze.

47. **Pharyngeal Tonsil.**—Wex describes the anatomy of the part and then reports seven cases of tuberculosis, in six of which tubercle bacilli were found, a larger proportion than seems to have been observed by any others.

48. **Aural Complications of Scarlet Fever.**—From his observations von Gaessler comes to the conclusion that there is a relation of middle-ear disease to the exanthem. Simple hyperemia, secretory process, fibrous exudate, form the progressive states of ear disease due to infection. He thinks that ear disease is the usual manifestation of general infection and

not extension of the infectious process in the condition. While the relatively small number of the examinations he has made only suggests the probable invariable participation of the ear in scarlet fever, they show that pronounced inflammatory processes can exist behind the normal or nearly normal drum membrane. In scarlet fever the condition seems analagous to measles and diphtheria in which the ear invariably participates.

58. **History of Typhoid Fever.**—According to Haskins, typhoid fever can be recognized in the literature for over 200 years. Its nature, as distinguished from typhus, has been universally recognized for exactly fifty years.

59. **Etiology of Typhoid Fever.**—The definite cause of typhoid fever is recognized to be bacillary, which appears not merely in typhoid, but in other conditions, as for example leptomeningitis, cholecystitis, and puerperal fever. It is of great importance to recognize the fact that this germ is a possible cause in cases of bad septic or acute inflammatory and other lesions without the characteristics of typhoid. We must, therefore, modify our older views and define typhoid as an infection by the bacillus typhosus. So far as Howard is aware, very little is known as regards individual susceptibility. Certainly not all who are exposed are infected, and one attack usually gives lasting immunity.

60. **Diagnosis of Typhoid.**—According to Hoover, the spleen is universally enlarged in typhoid, and he would hesitate to diagnose the condition where it was not evident. The common method of percussion may not be able to determine it. The better method is to define the position of the spleen by the resistance it affords to the percussing finger, by a sort of palpation rather than percussion. Ileocecal tenderness is another sign which is usually sought in an inaccurate manner. The local peritonitis over the site of intestinal lesions would cause pain, but if tenderness is to be elicited from the ulcerating mucosa of the intestine, it must be opposed against the posterior abdominal wall and then pressure exerted to produce pain. The diseases to be distinguished from typhoid are trichinosis, malaria, septic endocarditis, septicopyemia, meningitis and miliary tuberculosis. The last is the one which we have to distinguish far more often than any other disease. As often as any other sign, the dicrotism of typhoid assists in recognizing the disease. Another constant sign is diminution of the white corpuscles, the hypoleucocytosis. The Widal reaction is found also in miliary tuberculosis, in malaria, and in some cases of sepsis. He sums up the most constant signs as continued fever, flushed face, dicrotic pulse, large spleen, ileocecal tenderness, hypoleucocytosis and the Widal reaction.

61. **Prognosis in Typhoid.**—In the modern uncomplicated case Rogers says the prognosis is good. The conditions that make it unfavorable are persistent high temperature, often up to 103 or 104 F. Laryngitis, especially when it takes the type of perichondritis, is usually fatal. Pneumonia is another serious complication; ulceration can not always be determined. Meteorism adds to the gravity of the case and, if excessive, is an unfavorable sign. Hemorrhages are dangerous in proportion to the amount of blood lost. The prognosis of perforation is always bad. Early insanity is usually fatal, and profound coma is likewise a bad symptom. In cases where the nervous system seems to receive the force of the poison and in proportion to the impression and persistence of it in spite of the treatment, the prognosis should be guarded. The heart suffers in different degrees; there are few cases without some sign of weakness in the middle or later periods, and sudden death may result from very mild exertion. The circulation is an important element in forming our prognosis, and the latter is never to be made absolutely safe until all signs of cardiac disturbance have disappeared.

62. **Management of Typhoid.**—The chief points insisted on by Lee are early confinement to bed, good atmospheric conditions, disinfection, free administration of pure water, care of mouth and teeth, prevention of bed-sores and good nursing.

63. **Feeding in Typhoid.**—Carter reviews the recent literature of feeding in typhoid and points out the inconveniences of an exclusive milk diet, and on the whole, the better showing is in favor of a rather liberal diet, though some statistics show more percentage of relapses, and due caution should be used. He says, in view of the long siege which lies ahead of the typhoid patient, that every means which may be safely used to save the strength should be employed.

64. **Sequels of Typhoid.**—*Those mentioned here by Maynard* are temporary alopecia, bed sores, pustular dermatitis, which he has observed in one case, mental defects from disturbance of nutrition of the brain and cord, thrombosis of the femoral vein coming on after the patient begins to improve, myocarditis, pneumonia, bronchitis, laryngitis and nephritis. Tuberculosis may develop after typhoid, but the question then arises whether it was not the primary disease.

70. **Uric-Acid Lesions.**—Deficient oxygenation and excessive nuclein-catabolism, according to Croftan, produce a growth of toxic leucomains called the alloxuric bases, which are the true poisons in uratic lesions. Uric acid acts pathogenically only from its tendency to form concretions; the alloxuric bases entering the blood-current prepare a nidus for the deposit of these concreations, which in their turn act as mechanical irritants in the different tissues, in the joints as in gout, and in the kidneys. *The indications for treatment* are: 1. To raise oxygenation, which can be done by oxygen inhalations, and in addition to this iron and arsenic, together with hygienic measures, such as massage, hydrotherapy, electricity, regulated diet, etc. 2. To regulate nuclein-catabolism, and this is chiefly done through regulation of the diet, in excluding foods which contain nuclein or alloxuric bases. Thus internal organs such as the spleen, liver, sweet-breads, kidneys, brains, etc., are forbidden. Soups, meat extracts and broths are unadvisable. Raw, dried, cured and smoked meats are to be condemned; boiled, fried and stewed meats are permissible. The starches, sugars and fats are harmless as long as they do not disturb the digestion. Alcohol is absolutely harmful. Tea, because of some of its alkaloids, is forbidden, but coffee is harmless. Water can only act beneficially. 3. *The elimination* of alloxuric bases and soluble urates and, on account of the very irritating action on the kidneys, Croftan prefers to avoid diuretics and promote sweating by hot baths, massage and friction treatment. The salicylates, being diaphoretics, are also useful in this way. The alkalies act similarly and also neutralize lactic acid. The so-called specifics, guaiacum, colchicum, potassium iodid, etc., are uncertain in their action and he does not use them. 4. This indication is the removal of uratic secretions. *The so-called solvent action of certain agents is altogether fictitious.* The theoretic remedies used in these cases are not yet established. The best treatment of the mechanical condition is necessarily mechanical. He employes counter-irritation, heat and cataphoresis for this purpose. Cantharidal collodion painted over the inflamed point often relieves pain and lessens irritation, and heat can be applied with a simple apparatus made with a stovepipe and lamp as well as with the more expensive ovens so generally advertised. Cataphoresis is indicated in chronic cases of gout with old deposits. The fingers and knuckles being elaborately cleaned and wrapped with borated absorbent cotton moistened with a solution of iodid of lithium, are placed on a metal plate connected with the negative pole. Above the fingers is placed a metallic electrode of the galvanic battery connected with the positive pole. About 20 milliamperes, for ten minutes, are sufficient, massage of the joints following. As the uratic diathesis is a hereditary condition, its cure in one generation is not to be expected. We are limited to an intelligent prophylaxis, carefully regulated mode of life, and treatment of special manifestations. In this way the perversion may possibly be educated back to the normal.

88. **The Schott Treatment.**—Turner's article is a severe criticism of the methods at Bad-Nauheim, in which he arraigns Professor Schott, whose name has been attached to this well-known bath and gymnastic treatment of cardiac diseases, as an advertising charlatan, and gives instances which he thinks show his unreliability, ignorance and cupidity. He finds, he says, also, by inquiries among medical men in Germany, that this idea is largely held in regard to him.

102. **Invalid Diet.**—Irwin thinks that fevers are underfed and gives his own experience in using a more liberal diet than has generally been recommended. Twenty cases of typhoid fever in which were allowed dry toast, soft poached or boiled eggs, etc., as soon as they showed any appetite, contrasted favorably with twenty-five cases in which milk was the chief diet and soft toast only allowed after a normal temperature had been maintained for two days and stopped if it rose again. The question, he says, is not one of solid or liquid food, but one of digestibility.

103. **Mastoiditis.**—From his experience, a sample of which is given in a report of seven cases, Tuttle sums up the treatment of mastoiditis as follows: In all cases of purulent otitis media there is more or less involvement of the antrum. In acute otitis media with symptoms of mastoiditis we are justified in using palliative measures for twenty-four hours. To delay operative measures more than twenty-four hours without marked improvement is, however, not justifiable. The incision in the posterior superior wall of the auditory canal is far superior to Wylde's incision as a depleting measure. All cases of chronic purulent otitis media resulting in mastoiditis should be operated on at the first appearance of symptoms without resorting to palliative measures, and the author claims that we are justified in opening the antrum for drainage in chronic cases of this condition without symptoms of mastoiditis.

105. **X-Ray.**—Horsky discusses the fallacies of the X-ray, showing that skiagraphs are not entitled to the credence given to ordinary photographs. He has also corresponded with several prominent surgeons concerning the status of the X-ray in legal medicine, and has obtained no positive reply. There appears to be much diversity of opinion in regard to it among surgeons, though few judges have objected to it. He maintains that the skiagraph in any case should be taken by an expert. The physician should accompany his patient to the examiner, or, if he himself takes the photograph, a witness should be present. Before taking the picture both parties should verify, with the fluoroscope, the anatomic position of the part with reference to the plates and tubes, and it is also necessary that the part be taken in several positions. If the picture is introduced in evidence, or if its exclusion is attempted, the examiner should be required to demonstrate in detail just how it was taken. Finally, it being perfectly practicable, the apparatus itself should be brought into court and the jury be allowed to examine the part with the fluoroscope. He thinks the time is not far distant when this method will be in vogue. In conclusion he suggests the following as an ethical consideration for the physician or surgeon: If ever occasion requires one to take a skiagraph of a case treated by another physician, do not under any consideration allow the patient to get hold of the picture, for should any deformity or abnormality, real or fancied, appear, it may act as an incentive to bring an action. If a photographer is employed he should be charged not to give out any copies of the picture except to the physician.

108. **Fallacies in Rectal Surgery.**—The fallacies mentioned by Matthews are the use of the long tube in the diagnosis of rectal disorders and the existence of rectal valves. He quotes a number of authorities to support the opinion that these valves do not exist. He says he has looked for them for years and has yet to find them.

110. **Neurasthenia.**—Pope's summary of the treatment of neurasthenia is: 1, rest—curtailment of energy; 2, partial rest; 3. exercise; 4, diet; 5, insistence on drinking large quantities of water; 6, massage; 7, electricity; 8, hydrotherapy.

116. **Insane Asylum Laboratories.**—Barker considers the special subjects of pathology and bacteriology and their study in institutions for the insane, and enumerates the advances and results in these studies. He makes a special point of the importance of clinical work in these, and the co-operation of such with laboratory investigation.

117. **Constitution.**—Bell offers a vitalistic theory of the phenomenon of organic life, and defines what we call constitution "as an individual peculiarity of co-operative and reciprocal work of life." That is to say, it is the control of energies and forces by the animistic principle as shown in individual cases, including heredity or transmitted peculiarities, and the individual variations in growth, proliferation, nutrition, etc.

119. **Hyperpyrexia.**—A patient reported by Alexander suffered from recurrent attacks of what at first was diagnosed appendicitis, but which seemed to be associated with obstruction of the bowels. There was great abdominal distention, discoloration, stercoraceous vomiting, and a temperature which ranged, in the different attacks, as high as 112 to 113 F. Besides the fecal material, the evacuations, which sometimes were absent for a number of weeks, contained blood and pus and mucous exfoliation during the attacks. According to the patient's own statement, there had been no evacuation containing fecal material in the last two years. The patient takes three meals, but vomits a few hours after eating and has stercoraceous vomiting about every four or five weeks, greatly relieving the tension.

120.—See abstract in The Journal, xxxv, p. 1500.

121.—Ibid.

122. **Decinormal Salt Solution.**—The value of this salt solution is studied under various conditions, by Burke, who recapitulates the indications for its use under two heads, where the circulation needs filling, or when the poisons in the blood are to be diluted. Where these indications are to be met no agent will take its place. It fills the blood-vessels, and thus gives the heart something to work against. It furnishes a medium for the corpuscles to circulate in which carries nutrition to the tissues. It produces free diuresis and diaphoresis. thus liberating poisons. It delivers to the tissues two of the most essential life-giving compounds and dilutes poisons and renders them less active. It gives a respite during which we may act or in which the alarming symptoms may subside.

FOREIGN.

British Medical Journal, January 12.

Observations on Wind Exposure and Phthisis.—William Gordon.—From an analysis of the statistics of the rural districts of the county of Devon, Gordon finds that while soil has some effect on phthisis mortality if the influence of wind exposure is removed, the chief effect is entirely due to the latter. The condition of the temperature, soil or air can not account, in his opinion, for phthisis, nor can the occupation as given in the statistics of these rural districts. It seems manifest, therefore, that for St. Thomas, Newton Abbott, Okehampton, and probably Devonshire generally, the paramount influence which now determines the higher or lower rate of phthisis is the degree of exposure to or shelter from the west and southwest winds.

Jaundice in Typhoid Fever. George Ogilvie.—According to the author jaundice is hardly as rare and fatal a complication of typhoid fever as has been thought, and he reports four cases upon which he comments at length. It is a most unusual occurrence, however, that jaundice should appear at the onset of the disease and gradually disappear with the falling off of temperature and lasting through the whole course of the disease which yet has favorable terminations. In his own cases the diagnosis has been established beyond a doubt by the Widal reaction, taken with other symptoms. The relations of morbus Weilli to typhoid are discussed, and the author seems to believe that properly it is only a form of typhoid. The one case in which the agglutination failed to follow does not, he thinks, prove anything to the contrary, since the reaction was only tried once in the early stage, when it may fail also in true typhoid. As regards the pathologic condition productive of jaundice it is largely a matter of conjecture, but it seems almost certain that it is not of catarrhal nature. The rarity of catarrhal jaundice finds a natural explanation in the fact that the stomach and adjacent parts of the intestines are scarcely ever implicated in typhoid processes. Ogilvie is inclined to think that there is some direct action of specific microorganisms on the liver and bile-channels in these cases.

The Lancet, January 12.

Pneumococcic Arthritis. Edward J. Cave.—The author first reports a typical case of the acute suppurative form of pneumococcic arthritis and analyzes 31 cases from the literature in tabulated form. The majority of the cases occurred in immediate association with pneumonia (28 out of 31.) The arthritic symptoms usually followed the onset of pneumonia from a few days to a fortnight, but in two instances they are said to have preceded it. The disease is a fatal one, 25 out of 31 having died. The affection is one of adult and advanced life and far commoner in males than in females. Both these peculiarities may stand in relation to predisposing influence or previous damage to the joint. Arthritis is commonest in the lower extremities. In 19 of the cases the inflammation was confined to a single joint, and the larger joints, excepting the hip, seem more likely to be infected. In all the cases but one included in the table, the pneumococcus was demonstrated in the fluid in the joint; but similar cases have been observed in which the pus has been found sterile. It has been suggested by Widal that the pathology may be the same, but the cocci had died out at the time of examination, or the joint affection may be due to toxins produced elsewhere in the body. Another case is reported which is not included in the table, because the organism cultivated from the blood was not identified also by animal inoculation. While its culture characteristics seemed like those of pneumococci, unfortunately, owing to the pressure of professional work, it was not experimented with further before it died out. As noticed, infection is liable to attack a previously damaged joint, and the experimental observations of numerous observers show that the injection of virulent cultures of pneumococcus directly into the joint of a susceptible animal is almost invariably followed by acute suppurative arthritis. The subcutaneous injection of virulent cultures after the previous excitation of an aseptic inflammation in the joint, whether by direct injury or by injection of turpentine, gives varying results, in many instances negative (Gabbi) and in many positive. (Ausset, Zuber.) The intravenous injection of virulent cultures with associated aseptic traumatism of the joint leads to arthritis much more certainly than do injections hypodermically. Finally Bezançon and Griffon have succeeded in producing experimental pneumococcic arthritis by modifying the resistance of animals experimented on in relation to the virulence of the pneumococcus. They find in a rabbit partially immunized that a large full dose of virulent culture produces local lesions rather than general sepsis, especially in the form of pneumococcic arthritis. Leroux, who has summarized these experimental investigations, suggests the correspondence with the clinical experience that arthritis usually supervenes after a pneumonia has run its course or toward the end of an attack when the condition of greater or less immunity has been acquired. The clinical characteristic symptoms vary in severity. Fever is generally high. The prognosis is grave both as regards danger to life and the safety of the joint. Constitutional infection is liable to occur, producing its characteristic localizations in the endocardium, meninges, and other tissues. The treatment in suppurative cases, which are the majority, should be the use of asepsis, incision and flushing of the joint, drainage and fixation, as in other suppurative arthrites. The author questions whether arthrotomy for the removal of the morbid products, avoiding important ligaments and tendons would not be followed by speedier cure and better results. Convalescence is apt to be tedious and prolonged, and stiffness and adhesions remain which must be treated on general principles.

The Relation of the Bowel Lesion of Typhoid Fever to the General Symptoms of the Disease. T. J. Maclagan.—The local disturbances of the intestinal glands, according to Maclagan, are the consequence of the organic growth in the tissues of millions of the organisms produced. This would not be serious were it not for the fact that it leads to sloughing and suppuration, and these bring into play other organisms much more pathogenic than the typhoid bacillus. The existence of these organisms in the system can be determined by the prolonged duration of the fever, high temperature and other alarming symptoms, which are not due so much to direct action of the typhoid bacillus as to the various cocci associated. Gangrenous ulcers in any part of the body are apt to cause specific poisoning, and this is especially so in typhoid fever, because of the number of ulcers and consequent foci of infection. The point specially made, therefore, is that while all the symptoms of typhoid fever are traced back to an action set going by the typhoid bacilli, no one of its serious symptoms or specific dangers is due to the direct action of that bacillus.

The Practitioner, January.

The Epidemiology of Rheumatic Fever. Arthur Newsholme.—The author finds that the epidemiology of rheumatic fever is dependent especially upon dryness and lowering of the ground water. The association of dampness of the air and soil with rheumatic pain is due to the common lack of distinction between chronic and acute rheumatism, two different disorders. The organism of acute rheumatism is one which lives in the soil, but is driven out when the ground water becomes high; it multiplies rapidly in dry years and is transmitted to the human recipient in some unknown way, possibly by the dust. This is his explanation of the facts, subject, of course, to further additions to our knowledge. Perhaps bacteriology will be able in coming years to more fully explain them.

The Pathology of Rheumatic Fever. F. J. Poynton.—Poynton reviews the various theories of rheumatic fever, the nervous, toxic, chemical, infectious, and malarial theories, and gives at length a description of the cocci found by himself and Paine, to which he attributed the causation of the disease. He thinks that the diplococci are destroyed at the sites of local lesions, though their destruction usually results in some damage to the important tissues in which they have been localized. This explains the fleeting character of the symptoms in acute rheumatism. The worst manifestation of rheumatic fever is usually pericarditis, and in such cases he has obtained the most virulent cultures of the organism. The relapses that are so frequent, he thinks, can be explained by a certain form of the coccus that persists, recovering virulence if the vitality of the tissues is lowered by exposure, premature exercise, or possibly improper diet. The problems of heredity, etc., are yet to be elucidated.

Rheumatic Fever in Relation to the Throat. St. Clair Thomson.—The throat affections of rheumatism and the theory are treated of by Thomson, who summarizes our knowledge as regards throat affections as follows: 1. It is undoubted that a certain number of cases of acute rheumatism are preceded by an angina in a proportion varying from 30 to 80 per cent. 2. Both rheumatism and angina have many etiological points in common—season of year, cold, wet, fatigue, depression, vitiated air, etc. 3. The connection of angina and rheumatism, though undoubted in a number of cases, is not yet clearly established. 4. The tonsil may be the port of entry of the rheumatic virus, and this even although the naked-eye appearance of the throat gives no indication of its being affected. 5. The particular affection of the throat which is associated with rheumatism is not yet established. Apparently it is not peritonsillar abscess (quinsy). 6. Peritonsillar inflammation does not appear to be arrested by the administration of antirheumatic remedies. Many cases of parenchymatous and lacunar tonsillitis, on the contrary, are considerably benefited by the administration of salicin or salicylate of soda. That this action proves the rheumatic nature of the disease can not yet be accepted. 7. The question requires further research in two directions: one in differentiating the various forms of angina and determining the one which is associated with rheumatism; the other in further research to discover the true nature of rheumatism.

The Effects of Rheumatic Fever on the Heart. G. A. Gibson.—The author deals with the production and nature of the cardiac lesions of rheumatism, and the methods of treatment. It is highly probable, he thinks, that all cases of acute and subacute catarrhal disease are of microbic origin and therefore infective. The recent work of Poynton and Paine goes a long way to explain the connection of the microbic infection with acute rheumatism. When these organisms attack the heart it is due, he believes, to their circulation in the blood. The indications for treatment are: to avoid rheumatic implication of the heart; to enjoin absolute bodily rest, so that the work the heart is obliged to do is reduced to a minimum. He therefore holds that from the first moment of attack of acute rheumatism until some days after it has entirely ceased, the patient should be compelled to retain a horizontal position. The diet should be unstimulating, not introducing too much animal proteid matter, and it should contain abundance of fluid, so as to bathe the tissues freely. In the earlier stages of acute rheumatism the best form of diet is milk, though later a more liberal diet may be allowed. As regards drugs he believes in the use of salicylates in full doses until every symptom has disappeared, and then he begins to use absorbents, of which the most satisfactory is sodium iodid, giving 10 to 15 grs. three times a day. If there is an appearance of anemia, some iron preparation may be administered. No heart stimulants should be employed until later. Through the whole course of the disease an occasional mercurial aperient should be administered every few days. Another method which seems to him of value, is counter-irritation, though it is not easy to explain how it acts, but he is convinced of its utility.

Rheumatism in Childhood. George F. Still.—After reviewing the progress of rheumatism in childhood, Still believes that it is evident that it is very common in the later periods. During early childhood, however, rheumatic phenomena are very infrequent, and in infancy rheumatism is almost unknown. The symptoms differ from those in adults chiefly in the character of the joint manifestations and the greater prominence and frequency of heart affections. He calls attention to pains in the limbs complained of by children, the so-called growing pains, which he thinks are often evidence of rheumatism, and the practical importance of their recognition can hardly be overrated. He also mentions the frequency of affections of the hip-joint in juvenile rheumatism and the limitation of the pain to one joint for a longer time than is common in older cases. This affection of the hip-joint usually suggests commencing tubercular disease. Another symptom is the stiff neck, which seems trivial, but, like the vague pains and stiffness of the limbs, may be followed by severe cardiac involvement. The frequency of cardiac affections is also one of the most characteristic features. In 170, as far as possible consecutive, cases, 128 had cardiac bruits, which in 93 were certainly due to endocarditis. Wasting is also a more notable feature in cardiac rheumatism of childhood, and a very important manifestation of rheumatism in childhood is the rheumatic nodule. While in adults they are rare, they occur in children so frequently as to be of much importance. He found them in over half of his cases, and their close association with endocarditis is of decided clinical importance and has a bearing on the prognosis. Another symptom of rheumatism in children is sore throat. Tonsillitis is so commonly present that it is difficult to escape the conclusion that it has some direct relation, possibly as a medium of infection with the disease. Rheumatic hyperpyrexia or cerebral rheumatism is almost unknown in childhood. Among the immediate symptoms he mentions stomach pains, pain in the side, headache, and nervous symptoms, such as somnambulism, night terrors, habit spasm; another ailment several times observed associated with rheumatism in children is lienteric diarrhea, which is also a nervous phenomenon. In conclusion he mentions one further phenomenon, the association of red hair with rheumatism and heredity. He says the color of the hair may seem a small point, but it is one of the many little indications which are sometimes of value.

Presse Medicale (Paris), January 2 and 5.

Prevention of Alimentary Stasis. A. Martinet.—By reclining on the right side about half an hour after meals, and drinking in this position a cup of hot chamomile or linden tea, the contents of the stomach are rendered more fluid and their escape from the organ is accelerated by the force of gravity. In a few minutes to half an hour the patient is relieved of all the symptoms of alimentary stasis.

Dyspeptic Neurasthenia. Bardet.—Neurasthenic conditions proceeding from latent dyspepsia are common. The latter is due as a rule to excessive amounts of nitrogenous foods. This abuse keeps up hyperchlorhydria, and this in turn liberates in the blood an excessive amount of sodium. If there is hepatic insufficiency, the sodium renders the organic fluids alkaline. The first effect of the hypoacidity is usually manifest in a neurasthenic condition, and nearly all cases of pseudoneurasthenia are due to this cause. The amount of nitrogenous food ingested should be reduced to .5 or .75 gm. to the kilogram, not allowing more than 1 gm. at any time. This is sufficient to restore the acidity to normal; the same result can be attained with dilute phosphoric acid, 1 to 3 gm. a day, or even more. Bardet adds that he has never seen any serious ill effects follow its use in the hundreds of patients he has treated with it, but larger doses are somewhat laxative. Cautru has taken 100 drops of dilute phosphoric acid a day during a period of two years without inconvenience, but Weber has observed intolerance in one patient for more than 40 drops.

Quinin in Uterine Therapeutics. P. Dalche.—Quinin is useful in congestive dysmenorrhea, moderating the rush of blood to the genital regions, and is also useful in the dysmenorrhea due to neuralgia in this region, which Dalche thinks is more frequent than is generally recognized. It is possible that it might prove effective in amenorrhea, arousing the contractility of the uterus and of the utero-ovarian vessels, thus stimulating torpid ovulation. It is most effective, however, in metrorrhagia and menorrhagia not associated with any organic trouble. This dose is usually .5 to 1.5 gm. and Dalche combines it with digitalis or ergot as indicated.

January 5.

Leprosy in the Indo-Chinese Peninsula. E. Jeanselme.—The immense valley of the Irrawaddy is a focus of endemic leprosy, and an estimate of 25,000 is probably less than the actual number of lepers in the peninsula comprising Siam, Annam, etc. No organized efforts have been made to isolate them. In a large number of cases traced by Jeanselme the infection was brought into the French colonies by Chinese settlers.

Centralblatt f. Chirurgie (Leipsic), January 5 and 12.

Prevention of Shortening in Fractures of the Leg. N. Kaefer.—A plaster cast is applied to the leg and, just before it hardens, is cut in two parts by a circular incision entirely around the leg a little above or below the fracture. The two parts are then pushed gradually farther and farther apart by a mechanical contrivance which is firmly fastened to the upper and lower portions of the cast with plaster bands, and which consists of an iron rod with a screw thread at each end, winding in opposite directions and fitting into a solid female screw which forms part of a long, thin iron plate at each end. By turning a nut on the rod in the center, the two screws are forced apart. This nut is turned half or completely around every day, with no discomfort to the patient, and the fracture heals with no shortening. The apparatus is also indicated to prevent shortening after oblique osteotomy.

Resuscitation by Manual Compression of the Heart. H. Maag.—The Journal described, in its issue of July 21, 1900, p. 180, the successful experiments of Prus in the resuscitation of dogs by manual compression of the heart and blowing air into the lungs through a tracheal canula, long after apparent death from chloroform or electricity. Maag reports a case of death in chloroform narcosis after operation for nerve-stretching for rebellious sciatica. After all other attempts at resuscitation had failed, Prus' directions were followed. The heart responded promptly to the manual compressions and in half an hour the first natural respirations were perceptible. In an hour the breathing was deep and regular, the heart beating powerfully 70 times a minute, and an hour later the patient was put to bed apparently saved, although consciousness had not returned. A few minutes later respiration ceased again, and in spite of renewed efforts could not be restored. The heart continued beating for eight hours longer and then suddenly stopped, the temperature gradually falling. The air had been blown into the lungs by the mouth of an assistant.

and a large portion had found its way into the alimentary canal. This caused meteorism which forced up the diaphragm and nullified, in great degree, the efforts at artificial respiration. Prus pointed out that the diaphragm is the first to respond and take up the task of respiration. The patient was resuscitated ten to fifteen minutes after all pulse and respiration had ceased and he was cool and cyanotic. The narcosis commenced at 8; by 11:30 he was breathing regularly; by 12 all danger was apparently over, and a few minutes later respiration ceased, but the heart kept beating powerfully till 8 p.m.

January 12.

Recent Luxation of the Peroneus Tendon. H. Reerink.—A case is related in which the tendon was replaced and held in its groove by strips of adhesive plaster (Unna's zinkpflaster), and a plaster cast applied in a few days. Massage completed the cure.

Simplification of Plastic Achillotomy. O. Bayer.—Instead of the ordinary oblique division of the tendon Achilles in the treatment of spastic paralytic talipes equinus, Bayer makes the discission in two right angles facing in opposite directions, something the shape of a step. He has been very much pleased with the results attained and now states that he has succeeded in making this discission by subcutaneous tenotomy, without exposing the tendon, omitting the connecting longitudinal incision. The intact skin brings the parts into correct position. In sixteen days the patient was walking normally with both feet.

Dermatologische Zeitschrift (Berlin), December, 1900.

Lupus and Carcinoma. E. Hollaender.—In three cases, old, rebellious lupus erythematodes became complicated with multiple carcinoma, relatively benign, and all were cured by excision of the carcinomatous nodules, with no recurrence. Hollaender is inclined to attribute the etiology to the mechanical injuries of the regions affected by lupus by the repeated therapeutic measures applied.

Deutsche Med. Wochenschrift (Leipsic), January 10.

Pentose in Bacteria. E. Bendix.—An osazone has been derived from tubercle bacilli by Bendix which possesses all the characteristics of pentose, and he has established that the nucleo-proteid of the bacilli is the bearer of the pentose group. Tuberculin preparations therefore do not contain the pentose radical. Pentose was also found in a mixture of bacteria from feces, and pentosane was distinguished in some bacilli, including those of diphtheria, but never in certain others, as for instance, the typhoid bacilli.

Vaginal Incision for Tubercular Peritonitis. G. Baumgart.—More than 35 cases of tubercular peritonitis operated on by Loehlein are reported and the superior advantages of the vaginal route extolled. A number of these were described by Loehlein two years ago (*Gyn. Tagesfragen*, v., p. 99), but his example in opening the abdominal cavity through Douglas' pouch does not seem to have been followed. In some of the cases a small secondary incision was also made in the anterior abdominal wall. In the pure uncomplicated cases treated by posterior colpoceliotomy the patients were discharged in nine to twenty-two days after the operation.

Skiagraphy of the Stomach. W. Becher.—This communication states that an empty soft-rubber tube introduced into the stomach cast a distinct shadow in all the writer's skiagraphs. When he wished to fill the tube with a bismuth solution he inserted the tube first and took a skiagram and then filled the tube with the solution through a funnel. The patient stood with his back to the focus-tube.

Thymus Death. H. Kohn.—At the autopsy of a seven-months' child who had died after two days of distress and cyanosis, a very large thymus was found, compressing the aorta like a truss. The artery beneath it and the heart were very much dilated and the latter hypertrophic.

Rattle-Snake Poison in the Cure of Leprosy. J. Goldschmidt.—Dr. A. M. de Moura announced in the issue for November 29 that he had been using rattle-snake poison in the treatment of fifteen lepers at San Paulo, Brazil, and had been much encouraged by the unmistakably favorable effect of the medication. He first established the effective and safe dose by experiments on dogs and administered it internally or by subcutaneous injection. This poison has been used by the natives for a long time in the treatment of various skin affections and leprosy, and numerous instances are related of complete cure of leprosy after rattle-snake bite. Lewin makes the comment that any albumin which possesses the property of inducing irritation by a special chemical energy is able to induce such a modification of the existing conditions that marked benefit may result. No specific action is necessary. J. Goldschmidt, in the present number, describes a case of a leper bitten by a rattle-snake. He succumbed in twenty-four hours, but during this interval all the lepromata softened and subsided. A local physician attributed this effect to the methemoglobinemia caused by the poison, and treated another leper on this principle, giving him 45 gm. of potassium chlorate in sixty hours. The intoxication was very severe and nearly fatal, but on the patient's recovery a week later, the cutaneous affection was remarkably improved. Goldschmidt warns against energetic therapeutic measures in leprosy, as the patient's resisting powers are very feeble. But all the more urgently he recommends prompt and effective measures in the early, curable stages, when the lesion is restricted to the nasal mucosa or to the cheek near the nostrils. He cites cases of complete cure, including one published in the *Bull. Med.* in 1895, in which there has been no recurrence in ten years. He advises tuberculin as a differentiating measure. For local treatment he finds nothing so effective as europhen or some similar substance generating nascent iodin. Success depends on promptness and perseverance.

Importance of Indicanuria in the Pathogenesis of Certain Affections. Wolovski.—Indicanuria is the sole cause of many acute and chronic affections which are promptly cured by measures that banish the indicanuria. These conclusions are based on the study of forty-four patients, and impel Wolovski to ascribe an important place in pathology to indicanuria. In several cases of trophic cutaneous neuroses—erythema, urticaria and eczema—the indicanuria was apparently the sole cause; at least they vanished in two or three days with appropriate treatment of the excess of indican, i. e., of the putrefactive processes in the intestines. It also proved to be the sole cause in several cases of the vertigo that follows chronic overfilling of the intestines, in one case of epilepsy and in a large number of gastric disturbances accompanied by disorder of the small intestine. The absence of indicanuria in case of gastric disturbance excludes an intestinal complication and is thus a valuable differentiating measure in dubious cases. He found the most effective treatment a rectal injection of two quarts of water on retiring and the next morning calomel and jalap, 1 gram each, the patient drinking copiously of some mucilaginous fluid. Chance suggested the most effective remedy to prevent recurrence of a chronic tendency, namely, mercuric iodid, not more than 5 mg. at one dose, in keratin-coated pills, two a day. In eight to ten days the amount of indican is materially diminished. Ingestion of certain foods produces indicanuria in some persons. Wolovski describes a modification of Jaffé's test for indican in the urine which requires only thirty minutes and enables amounts of indican from one-fifth to eight times the normal quantity to be determined. He adds that it is important to note the relative amount. In two cases, one of hysteria magna, he found the amount subnormal. He uses for his test pipettes graduated to hold twenty drops to the cubic centimeter. One pipette is filled with sodium or potassium hypochlorite containing 1 per cent. active chlorin, and another with the same diluted to one-tenth, thus containing 1 per 1000 chlorin. Ten c.c. of a 25 per cent. solution of lead acetate is mixed with urine to make 100 c.c., and the whole is shaken and filtered. If the urine is very high-colored it should be diluted one-half. It must also be freed from albumin. Five narrow and tapering test-tubes holding each 5 c.c. of the colorless urine are placed in a row and to the first, one drop from pipette No. 1 is added; to the second, one drop from No. 1 and five drops from pipette No. 2; to the third, two drops from No. 1; to the fourth, two drops from No. 1 and five drops from No. 2; to the fifth, three drops from No. 1. The test tubes are turned around twice and then warmed for two minutes. Five c.c. of hydrochloric acid of 1.19 specific gravity are then added to each test-tube. They are then closed with rubber stoppers, turned around two or three times and set aside for four or five minutes until cooled. To each tube is then added 1 c.c. chloroform, and the tube is turned around ten times. If the amount of indican in the urine is normal, the depth of the tint increases to the third test-tube and then decreases until in the fifth glass the fluid is colorless. If the amount is above normal, the tint increases progressively in each glass. In this case the series of test-tubes can be carried out indefinitely until the fluid finally becomes colorless, which in some cases occurs in the fifteenth tube. If the quantity of indican is subnormal, the fluid may be almost colorless in the first tube. The amount of indican is calculated from the fact that one drop of the solution containing 1 per cent. chlorin, in pipette No. 1, corresponds to 10 cg. chlorin in one liter of urine. If, for example, 1.5 drops were used for 5 c.c. urine, out of a total of 1600 c.c., this is equivalent to 15 drops to the liter of urine and 24 drops for 1600 c.c. The quantity of chlorin varies from 20 to 30 cg. in the urine for twenty-four hours. It averages 25 cg. (making allowance of 11 per cent. for the 10 c.c. of the solution of lead acetate added). This is the absolute amount. It is much more important to determine the relative amount in comparison with the solid constituents of the urine, namely, the coefficient of indican. This is readily accomplished by the aid of Haeser's multiplying formula (2.33). For example: 1600 c.c. urine, specific gravity 1.018: multiply 18 by 2.33. This gives 42 gm. to the liter and 67 gm. to 1600 c.c. The average is 60 to 70 gm. and 6 to 7 mg. of indican, *i. e.*, 65 *gm. solid substances and* 6.5 *mg. indican.* Assuming the normal amount of chlorin to be 26 cg., we have the following proportions, 65 : .006 : .26, or the practical equivalent, 10 : .001 : .4. This can be accepted as the standard for the determination of the amount of indican. A woman excretes 40 gm. solid substances; the normal amount of chlorin in her case is 1* cg. A man excretes 90 gm. of solid substances, and for him the normal amount of chlorin is 36 cg. These are the normal amounts in these instances, although they differ widely from the average absolute amount, 26 cg.

Muenchener Med. Wochenschrift, January 1.

Treatment of Club-Foot in the Adult. O. Vulpius.—Thirty-seven patients between 13 and 35 years of age have been cured of club-foot by Vulpius, two years having elapsed in the case of 26 and four years in 15. A number of cases are described, with illustrations showing the condition before and after treatment, which was carried out without sacrificing or mutilating the bones in any way. Subcutaneous tenotomy of the tendon Achilles is always done; the plantar aponeurosis is occasionally divided, the posterior tuberosity of the calcaneum exposed and pulled down with hooks. Transplantation and shortening of the tendon were valuable aids in correcting the deformity and in two cases supramalleolar osteotomy was performed. No splints nor troughs are applied, except a night splint in congenital talipes. The success is due to "modeling correction of the deformity," kneading the foot, stretching the shortened soft parts on the concave side from the skin to the capsule of the joint, until the foot can be brought into an overcorrected position without effort and without springing back. It is not necessary to try to complete the process at one sitting, especially in adults. Each sitting concludes with the application of a plaster cast to maintain what has been accomplished. Tenotomy of the tendo Achillis is the last step. The cast is kept on between two and four months. Massage and exercises are useful in the after-treatment, but are not indispensable, as the resumption of the patient's occupation usually produces the same effect, but more slowly.

Disturbances in Sensibility of the Skin With Affections of Internal Organs. H. Haenel.—The writer of this communication has noticed certain circumscribed zones of hyperalgesia in cases of affections of the internal organs, especially with gastric disturbance. They are evidently reflex, and sugest an explanation for some of the nervous, rheumatic or hysterical symptoms of which patients complain. When found they substantiate the patient's assertions and confirm the existence of an internal affection.

Nitropropiol Test for Sugar. F. V. Gebhardt.—Nitropropiol tablets are compressed from orthonitrophenyl—propiol acid and sodium carbonate. One tablet dissolved in 10 c.c. water is an efficient test for grape sugar in urine. Ten drops of the urine added and slowly heated turn the fluid indigo blue in case sugar is present, and insoluble indigo is deposited. This reaction does not occur in the absence of sugar and is, hence, a simple, delicate and inexpensive test.

Wiener Klinische Rundschau, December 30 and January 6.

Tuberculosis Pseudoleukemica. E. Ferrari.—Sternberg was able to collect, in 1898, eighteen cases of a peculiar tuberculosis of the lymphatic system, and asserted that a large proportion of the cases assumed to be pseudoleukemia in reality belonged to this group of tubercular affections. Ferrari describes a typical case which terminated fatally in five months. When first seen the diagnosis of febrile pseudoleukemia was made, and under treatment with arsenic the enlarged glands subsided. Two months later the patient returned with acute miliary tuberculosis, which soon proved fatal. The lymph-glands and whitish foci in the organs were typical specimens of the lesions in the "peculiar tuberculosis" described by Sternberg. They were also found in the muscles, a fact never before noted.

January 6.

Tabes and Diabetes Mellitus. J. Pal.—Diabetics sometimes exhibit symptoms suggestive of incipient tabes. Pal describes a case in which the symptoms and post-mortem findings indicated that endarteritis and tabes had developed simultaneously on a foundation of syphilis, and that the endoarteritis had in turn generated diabetes mellitus. The tabes was not very pronounced, but unmistakable old tabetic lesions were found in the spinal cord.

Cure of Psychic Epilepsy by Operation. A. Pilcz.—A young man was affected periodically with mental confusion, hallucinations and generally altered character, suggesting a periodic mental affection. A linear scar above the right frontal eminence, about 4 cm. long, the result of a fall ten years before, was extremely painful on pressure. This scar was excised and the psychosis was cured. A few months later it returned in a mild form after severe alcoholic excess, and the wound was again painful. The patient has since discontinued the use of alcohol and the cure has been permanent. The case emphasizes the importance of abstention from alcohol by persons with an epileptoid tendency.

Wiener Klin. Wochenschrift, December 27 and January 3.

Extirpation of the Spleen. K. Schwarz.—In the case described, a woman of 36, in the fifth month of pregnancy, had a hypertrophic wandering spleen removed, which had caused her much suffering and inconvenience for two years. Pregnancy was not disturbed. The results were so satisfactory in this and in other cases Schwarz has collected, that he advocates extirpation for all cases of wandering spleen as the simplest and safest operation unless it is complicated by numerous adhesions. If the organ is hypertrophic, splenectomy is the only method of treatment.

January 3.

Treatment of Ulcerations With Hot Air. K. Ullmann.—The rapid and beneficial results of local hyperemia from the application of hot air in the treatment of chronic and infectious ulcerative processes have already been proclaimed by Ullmann. He now reports and illustrates a number of cases cured by his apparatus and advocates the method for venereal ulcers and all ulcerative processes, particularly of the genital tract. He has noted repeatedly a favorable influence on the general health and remote morbid foci, and describes, among others, a case of arrest and cure of a serpiginous venereal infectious process.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

KINGS COLLEGE HOSPITAL CORPS; Being the Annual Report of King's College Hospital and the Medical Department of King's College. Edited by Norman Dalton, M.D., F.R.C.P., Albert Carless, M.D., F.R.C.S., John Phillips, M.A., M.D., F.R.C.P., W. D. Halliburton, M.D., F.R.S. Vol. VI. (Oct. 1, 1898-Sept. 30, 1899.) Cloth. Pp. 298. Price, 7s. 6d. London: Adlard & Son. 1900.

PHYSICAL DIAGNOSIS IN OBSTETRICS. A Guide in Antepartum, Partum, and Postpartum Examinations for the Use of Physicians and Undergraduates. By Edward A. Ayers, M.D., Professor of Obstetrics in the New York Polyclini n to the Mothers' and Babies' Hospital. loth. Pp. 283. Price, $2.00. New York: E.

INTRODUCTION TO THE STUDY OF MEDICINE. By G. H. Roger, Professor Extraordinary in the Faculty of Medicine of Paris. Authorized Translation by M. S. Gabriel, M.D. With additions by the Author. Cloth. Pp. 545. Price, $5.00. New York: D. Appleton & Co. 1901.

TRANSACTIONS OF THE WESTERN OPHTHALMOLOGICAL, OTOLOGICAL, LARYNGOLOGICAL AND RHINOLOGICAL ASSOCIATION, Oto-Laryngologic Section, at Its Fifth Annual Meeting, held at Planter's Hotel, St. Louis, April 5, 6 and 7, 1900. Paper. Pp. 48. St. Louis, Mo.: The Laryngoscope. 1900.

STUDIES FROM THE THOLOGY OF THE COLLEGE OF PHYSICIANS AND University, N. Y. Vol. VII. For the Collegi Reprints. Paper.

PROCEEDINGS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION, at the Fifty-sixth Annual Meeting held in Richmond, Va., May 22-25, 1900. Paper. Pp. 353. Published by the American Medico-Psychological Association. 1900.

TRANSACTIONS OF THE NORTH DAKOTA STATE MEDICAL SOCIETY for the Year 1900, and List of Members. Paper. Pp. 66. St. Paul, Minn.: St. Paul Medical Journal. 1900.

THE NINTH ANNUAL REPORT OF THE SHEPPARD AND ENOCH PRATT HOSPITAL FOR MENTAL AND NERVOUS DISEASES. Paper. Pp. 35. Baltimore, Md.: Williams & Wilkins Co.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA. January, 1901. Paper. Published by the Society. 1901.

Queries and Minor Notes.

A HOME FOR PHYSICIANS.

KANSAS CITY, MO., Jan. 8, 1901.

To the Editor:—In reply to G. M. P., in issue of January 5, p. 71, concerning the establishment of a physician's home in some part of the United States, I wish to state that there is such a project, and it is meeting the encouragement of the profession at large: but a few individuals are opposing it, however. Dr. John S. Harris, of Minor Hill, Tenn., has written a few articles in favor of it, and Dr. J. O. Dyer, of Galveston, Tex., is leading the opposition.

Dr. Harris suggests that a fund be raised by subscription, and that the "home" be exclusively for physicians and their wives, who are in destitute circumstances. In my opinion, the movement will be a good one, if properly carried out; but if not conducted in a judicious and professional way, it will only amount to a failure, and a reflection on the medical profession. I beg leave to suggest, inasmuch as said "home" is to be a national affair, and that it is to be conducted under the auspices of the medical profession of America, the following:

1. That its management shall be controlled by the AMERICAN MEDICAL ASSOCIATION.
2. That it shall be called the Sanitarium and Hospital of the American Physicians and Surgeons.
3. That all regular physicians and their wives, in good moral and professional standing, shall be eligible to membership, and that no other class shall be admitted.
4. That a membership fee of $10 be charged all applicants, and that each member be required to pay $5 per annum, as dues, unless satisfactory proof be furnished that he or she is in destitute circumstances.
5. That said sanitarium and hospital shall be located in the most healthful and beautiful spot in America, regardless of all sites, and other donations offered by any individual, town, state, or corporation; so that the lives of the old veterans may be prolonged, and that their last days may be peacefully and pleasantly spent.

I am opposed to the word "home" in this sense, or to anything which will impart to it the shadow of charity. Let us be courageous, and determined to make it a sanitarium and hospital of the highest order, where members of its association can receive as good medical and surgical aid as the world affords, and enjoy all other necessary comforts of life. This can be accomplished by the proper organization and management. Fraternally, J. L. SHORT, M.D.

SHALL THE CONCEPTION OF INFLAMMATION BE ABANDONED?

CHESTER, PA., Jan. 12, 1901.

To the Editor:—In the leading editorial of THE JOURNAL for December 22. "Shall the Conception of Inflammation be Abandoned?" you refer to Andrew H. Smith's discussion of the subject. Would you kindly inform me how I can obtain the discussion of the subject by this gentleman? Respectfully,

S. B. LUCKIE, D.D.S.

ANS.—Trans. Assoc. of Americ. Phys., 1900, xv, 71-80.

KOPLIK'S SPOTS.

CANEO, TEXAS, Jan. 6, 1901.

To the Editor:—In THE JOURNAL of the 22d ult., in the proceedings of the Cleveland Medical Society, Dr. Emmett L. Holt, of New York City, makes reference to the "Koplik's sign in measles" as a valuable aid in diagnosis. Will you give me in detail what this Koplik's sign is? S. A. F.

ANS.—Koplik's sign consists in the appearance of bluish-white slightly raised spots, about the size of a flaxseed, on the mucous membrane of the inner surface of the cheeks and lips. They vary in number, sometimes only five or six, sometimes fifteen or twenty or more. They are very generally present before the other characteristic signs. These spots are figured in the last edition of Tyson's Practice, opposite p. 105. We would also refer the inquirer to the article by Dr. Koplik on "Roetheln," p. 1195, Volume xxxv, of THE JOURNAL.

RESPONSIBILITY OF MORPHINOMANIACS.

RAVENNA, OHIO, Dec. 29, 1900.

To the Editor:—Can you refer me to anything on the subject of criminal responsibility of those addicted to the morphin habit? For instance, a morphin fiend addicted to the daily use of 45 grains appropriates some property belonging to a friend or forges his name to a paper, but results in no loss to the friend. How far is such a one responsible in the eyes of the law? Would his acts be considered the same as a sane man? If you could refer me to anything on the subject you would confer a great favor on a subscriber. W. G. S.

ANS.—In Clevenger's "Medical Jurisprudence of Insanity" the subject is discussed and a number of legal citations given, showing the status of morphinomaniacs before the law. It is generally recognized in works on mental diseases that opium, like alcohol, produces conditions qualifying if not destroying criminal responsibility.

Change of Address.

Chas. Anderson, Ft. Brown, Tex., to Santa Barbara, Cal.
M. E. Arewine, Melbourne, Ky., to Williamsburg, Ohio.
J. Bruehl, New Ridge Bldg., to Altman Bldg., Kansas City, Mo.
C. Bock, Ft. Wayne, to Indiana School for Feeble-Minded Youths, Ft. Worth, Ind.
A. H. Barr, New Orleans, La., to Storkville, Miss.
L. P. H. Bahrenburg, New York City, to U. S. Marine-Hospital Service, Honolulu, H. I.
C. S. Chamberlin, Kinsman, to P. O. Box 243, Cincinnati, Ohio.
W. J. Chenowith, Chico, Cal., to Decatur, Ill.
H. Cushman, 216 Ogden Ave., to 545 Van Buren St., Chicago.
E. Cross, Del Rio, to 231 Ave. C, San Antonio, Tex.
W. C. Cole, Omaha, Neb., to 3614 Ave. C, Council Bluffs, Iowa.
U. A. D. Collelmo, Watonga, to Weatherford, O. T.
F. H. DeVaux, Des Moines, Iowa, to Omaha Bldg., Chicago.
W. C. Davis, Chicago, to 2104 W. Washington St., Indianapolis, Ind.
W. Durrett, Ralston, to Pawnee, O. T.
H. C. Dunavant, Little Rock, to Osceola, Ark.
J. V. Davis, College Park, to Grantville, Ga.
J. F. Dunn, 614 Walnut, to 701 Walnut St., Milwaukee, Wis.
G. S. Darby, 79 Seeley Ave., to 653 W. Monroe St., Chicago.
A. D. Epps, 18 Trumbo, to 89 Beaufain St., Charleston, S. C.
J. W. Earel, Cambridge, Neb., to 606 W. Adams St., Chicago.
T. M. Edwards, Daisy, to Manassas, Ga.
W. H. Faulds, Luzerne, to Kingston, Pa.
C. H. Frizelle, Pontiac, to 403 E. Main St., Streator, Ill.
W. H. Forwood, San Francisco, Cal., to 46 N. 40th St., Philadelphia, Pa.
C. F. Gilmore, Chesterland, to Lorain Blk., Lorain, Ohio.
W. H. Gobrecht, Myerstown, W. Va., to 905 M St., N. W., Washington, D. C.
S. C. Graves, 97 Ottawa St., to Pythian Temple, Grand Rapids, Mich.
S. E. Greenfield, Atchison, to Hiawatha, Kan.
Mary D. Gayden, New Orleans, to Glencoe, La.
C. E. Hood, Cavalier, to Drayton, N. D.
J. Holland, Pahala, Kan, Kapoho, Puna, Hawaii, H. I.
A. Hoeltze, 322, to 1542 Linn St., Cincinnati, Ohio.
F. N. Hayes, Crowley, to Iota, La.
B. M. Hopkinson, 1435, to 1423 Bolton St., Baltimore, Md.
S. C. Hopkins, Norcross, to 95 W. Baker St., Atlanta, Ga.
J. S. Hall, 1013 N. J. St., to 3127 W. Washington St., Indianapolis, Ind.
J. E. Heraty, 614, to 701 Walnut St., Milwaukee, Wis.
J. R. Irwin, 15 E. 7th, to 401 N. Tryon St., Charlotte, N. C.
C. Jaeger, 1705 Champa St., to 509 California Bldg., Denver, Colo.
W. J. Jolly, McMinnville, Tenn., to Oklahoma City, O. T.
M. Johnson, 1110 W. 30th St., to 345 Westlake Ave., Los Angeles, Cal.
G. D. Kahlo, 1221, to 1321 N. Delaware St., Indianapolis, Ind.
W. E. Lamerton, Wyoming, Iowa, to 502 W. Van Buren St., Chicago.
J. A. Lockard, Toledo, to 59 S. Mulberry St., Mansfield, Ohio.
A. C. Lippincott, New York City, to Columbiaville, N. Y.
J. T. Mills, Waleska, to Sharptop, Ga.

Smith McMullin, Evanston, Wyo., to Gardnersville, Nev.
Jas. Monroe, Custer, to Nampa, Idaho.
W. E. Maxwell, Portland, Ore., to Kellyton, Ala.
J. W. Macfarlane, 3617 Butler, to 200 9th St., Pittsburg, Pa.
H. McGrew, Silverton, to Pleasant Ridge, Ohio.
P. C. Manley, Mayfield, to 1418 Pittston Ave., Scranton, Pa.
W. H. Moore, 434 Atkin St., to 326 W. Park Ave., Knoxville, Tenn.
H. R. Martin, 293 S. Robey St., to 871 Jackson Boul., Chicago.
J. W. [illegible] to Birds, Ill.
R. E. [illegible] C., to Seneca, S. C.
W. A. [illegible] Neb., to 334 Dearborn St., Chicago.
R. A. [illegible] Ave., to Chicago Hospital, Chicago.
R. F. Nomocks, Vossburg, to Poplarville, Miss.
J. G. Orton, Binghampton, N. Y., to Dayton, Fla.
W. E. O'Quinn, Las Cruces, to Torpedo Mining Co., Organ, N. M.
J. W. Price, Boonville, Miss., to Helena, Ark.
J. T. Rogers, Excelsior, to Statesboro, Ga.
H. L. Rine, 120 Elm, to 272 N. 3rd St., Newark, Ohio.
L. F. Richardson, Fairfax, to Terrill, Iowa.
S. M. B. Smith, Wausau, to Crandon, Wis.
J. M. Strayhorn, Bartlett, to over First Nat. Bank, Waco, Tex.
Chas. Schaper, 1304 N. 8th St., to 722 Michigan Ave., Sheboygan, Wis.
Geo. H. Stover, California Bldg., to Opera House Blk., Denver, Colo.
I. S. Stone, 3044 14th St., N. W., to 1449 R. I. Ave., Washington, D. C.
G. B. Somers, 1034 Mission, to 2416 Webster St., San Francisco, Cal.
L. W. Shannon, Granada, Kan., to 398 Wells St., Chicago.
Jessie B. Scott, 1215 25th St., Des Moines, Iowa, to 2405 N St., South Omaha, Neb.
J. N. Shaff, Cisco, to Alton, Ill.
A. F. Stotts, Soldier, Pa., to 522 N. 1st St., Marshalltown, Iowa.
H. M. Trankle, 509, to 663 W. Monroe St., Chicago.
J. E. Torrence, Oxford, to Presbyterian Hospital, Cincinnati, O.
The King-Scherer Co., 17 Park Pl., to 225-233 Fourth Ave., New York City.
J. E. Thompson, Peckville, to La Grande St., Pittston, Pa.
A. V. Thompson, Snowville, N. H., to Woodfords, Me.
G. H. Willis, Galien, to New Troy, Mich.
W. S. Watson, Fishkill-on-the-Hudson, N. Y., to Box 362 Salt Lake City, Utah.
M. A. Walker, Melrose, to Butte, Mont.
H. C. Wood, Irvington, to Vienna, Ga.
W. S. Whitwell, Fishkill-on-the-Hudson, to 30 W 11th St., New York City.
W. C. Welburn, 420 Woodland, to 501 Russell St., Nashville, Tenn.
C. C. Young, 348 Ogden Ave., to 231 Ashland Boul., Chicago.

New Patents.

Patents of interest to physicians, Jan. 1 and 15:

665,304. Vaginal irrigator. Moriz Bauer, Vienna, Austria-Hungary.
664,923. Atomizing apparatus. Robert L. Benson, Chicago, Ill.
664,840. Syringe. Byron J. Douds, Canton, Ohio.
665,084. Nasal inhaler. Marshall B. Gardner, Aurora, Ill.
665,243. Medical bed. Adolfo Luria, Chicago, Ill.
665,258. Liquid pasteurizer. Lars C. Nielsen and P. V. F. Petersen, Copenhagen, Denmark.
664,893. Spraying nozzle. Peter C. Peterson, Ottawa, Kan.
665,371. Syringe. Walter H. Pumphrey, New York City.
665,771. Log-holder for use in lithotomy. Willis W. Dean, Sioux City, Iowa.
665,617. Making potassium hydroxid. Heinrich Precht, Neustassfurt, Germany.
665,468. Chemical apparatus. Ralph C. Robinson, Boston, Mass.
665,756. Medicinal bath cabinet. Fortunee R. Ryan, Memphis, Tenn.
665,963. Electrolyzing soluble salts. A. J. O. Chalandre, L. J. B. A. Colas, Paris, and C. J. Gerard, Seveux, France.
665,879. Piperazin quinate and making same. Wilhelm Connstein, Charlottenberg, Germany.
666,135. Making cyanogen bromid. Carl Goepner and W. Witter, Hamburg, Germany.
666,221. Apparatus for decomposing solutions. Daniel N. Hathorne and H. E. Hobson, Rumford Falls, Maine.
666,094. Clinical thermometer. James J. Hicks, London, England.
666,210. Disinfecting apparatus. Michael Sheridan, New York City.
33,913. Design, ice or hot water bag, Christian W. Meinecke, Jersey City, N. J.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Jan. 10 to 16, 1901, inclusive:

George W. Adair, major and surgeon, U. S. A., member of a board at Fort Sheridan, Ill., to examine officers for promotion.

Ira A. Allen, acting asst.-surgeon, former orders amended so as to direct him to proceed from New York City, to Hot Springs, Ark., for temporary duty at the Army and Navy General Hospital at that place.

John M. Banister, major and surgeon, U. S. A., member of a board at West Point, N. Y., to examine officers for promotion.

Alfred E. Bradley, captain and asst.-surgeon, U. S. A., member of a promotion board at St. Paul, Minn.

William H. Brooks, acting asst.-surgeon, leave of absence granted.

Charles B. Byrne, major and surgeon, U. S. A., member of a promotion board at San Antonio, Tex.

Weston P. Chamberlain, lieutenant and asst.-surgeon, U. S. A., leave of absence granted.

Peter J. A. Cleary, lieut.-col., deputy surgeon-general, U. S. A., member of a promotion board at San Antonio, Tex.

Calvin DeWitt, lieut.-col., deputy surgeon-general, U. S. A., member of a promotion board at West Point, N. Y.

Franklin M. Kemp, lieutenant and asst.-surgeon, U. S. A., member of a promotion board at West Point, N. Y.

George J. Newgarden, captain and asst.-surgeon, U. S. A., sick leave of absence extended.

Maxwell S. Simpson, captain and asst.-surgeon, Philippine Cavalry, Vols., having tendered his resignation, is honorably discharged from the service of the United States, to take effect Jan. 31, 1901.

Samuel S. Turner, acting asst.-surgeon, member of a promotion board at Fort Sheridan, Ill.

Sanford H. Wadhams, lieutenant and asst.-surgeon, U. S. A., sick leave of absence from the Department of Porto Rico extended.

In addition to the above the following acting asst.-surgeons were directed to proceed from the places designated to San Francisco, Cal., for assignment to duty with troops en route to the Philippine Islands, and for subsequent service in the Division of the Philippines: James Bourke, Chicago; George J. Fanning, Sacaton, Ariz.; Almon P. Goff, Caton, N. Y.; Charles E. Jackson, Canal Fulton, Ohio; Joseph W. Love, Springfield, Mo.; Thomas C. McSwain, Bingham, S. C.; Robert C. Rogers, Bloomington, Ind.; James W. Smith, Chicago, and George B. Tuttle, St. Louis, Mo.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Jan. 19, 1901:

Asst.-Surgeon J. B. Dennis, to delay reporting for duty at Naval Academy until Jan. 21.

Asst.-Surgeon J. C. Pryor, ordered to duty at Naval Hospital, New York.

Asst.-Surgeon R. B. Williams, detached from the navy yard, New York, and ordered to the navy yard, Pensacola.

Asst.-Surgeon T. M. Lippitt, detached from the Naval Hospital, Yokohama, Japan, and ordered to Naval Hospital, Mare Island, via *Solace*.

Asst.-Surgeon B. L. Wright, detached from the Naval Hospital, Yokohama, Japan, and ordered to Naval Hospital, Mare Island, via *Solace*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Jan. 17, 1901:

Surgeon H. W. Sawtelle, leave of absence for thirty days granted by bureau letter of Dec. 18, 1900, revoked.

Surgeon F. W. Mead, leave of absence for sixty days from Jan. 21.

Surgeon A. H. Glennan, detailed to represent the service at meeting of Third Pan-American Congress, to be held at Havana, Cuba, Feb. 4-8.

Surgeon W. J. Pettus, granted leave of absence for two months from Feb. 5.

P. A. Surgeon J. A. Nydegger, granted leave of absence for thirty days.

P. A Surgeon A. R. Thomas, to proceed to Shields, England, for special temporary duty. Relieved from duty at Glasgow, Scotland, and assigned to duty in the office of the U. S. Consul-General at London, England.

Asst.-Surgeon C. H. Lavinder, to proceed to Vineyard Haven, Mass., and assume temporary charge of the service during absence of Surgeon F. W. Mead.

Asst.-Surgeon John McMullen, granted leave of absence for twenty-one days from Jan. 21.

A. A. Surgeon R. C. Craig, granted leave of absence for seven days.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Jan. 19, 1901:

SMALLPOX—UNITED STATES.

California: Oakland, Dec. 29-Jan. 5, 1 case.
Connecticut: Bridgeport, Jan. 7, 3 cases.
Illinois: Cairo, Jan. 5, 8 cases; Chicago, Jan. 5-12, 19 cases.
Kansas: Wichita, Jan. 5-12, 6 cases.
Maryland: Baltimore, Jan. 5-12, 1 case.
Massachusetts: Springfield, Jan. 5-12, 1 case.
Minnesota: Dec. 29-Jan. 5, Minneapolis, 1 case; Winona, 30 cases.
New Hampshire: Manchester, Jan. 5-12, 21 cases.
New York: New York, Jan. 5-12, 17 cases, 3 deaths.
Ohio: Jan. 5-12, Ashtabula, 4 cases; Cleveland, 51 cases.
Pennsylvania: Philadelphia, Jan. 5-12, 1 death.
Tennessee: Jan. 5-12, Memphis, 8 cases; Nashville, 5 cases.
West Virginia: Wheeling, Jan. 5-12, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, Dec. 22-29, 12 cases.
Canada: New Brunswick, Port Elgin and Cape Tarmentine, Dec. 28, 40 cases.
England: Leeds, Dec. 29-Jan. 5, 1 case; London, Dec. 22-29, 1 case.
India: Bombay, Dec. 4-18, 3 deaths; Calcutta, Dec. 1-15, 81 deaths; Karachi, Dec. 2-16, 16 cases, 2 deaths; Madras, Dec. 8-14, 1 death.
Mexico: Vera Cruz, Dec. 29-Jan. 5, 4 cases, 2 deaths.
Russia: St. Petersburg, Dec. 15-22, 5 cases, 1 death.

YELLOW FEVER.

Cuba: Dec. 29-Jan 5, Havana, 5 deaths; Matanzas, 1 case.
Mexico: Vera Cruz, Dec. 29-Jan. 5, 1 case.

CHOLERA.

India: Bombay, Dec. 4-18, 6 deaths; Calcutta, Dec. 1-15, 56 deaths; Madras, Dec. 8-14, 1 death.

PLAGUE.

China: Hongkong, Nov. 24-Dec. 1, 2 deaths.
India: Bombay, Dec. 4-18, 178 deaths; Calcutta, Dec. 1-15, 39 deaths.
Turkey: Constantinople, Jan. 11, on steamship *Berrig*, from Poti.

The Journal of the American Medical Association

Vol. XXXVI. CHICAGO, ILLINOIS, FEBRUARY 9, 1901. No. 6.

Original Articles.

THE TECHNIQUE OF BLOODLESS WORK.[*]

ROBERT H. M. DAWBARN, M.D.
Professor of Surgery, New York Polyclinic Medical School: Surgeon to New York City Hospital, etc.
NEW YORK CITY.

The older the surgeon, the greater becomes his respect for a drop of blood. All cutting operations on the extremities should be bloodless ones, and all elsewhere as nearly so as possible. Every drop of blood saved is a safeguard against shock; and bloodless work permits the same speed and facility of dissection that one could employ on the dead body.

At one time Petit's tourniquet, or some other, similar in principle, was the chief means for accomplishing this end. In emergency a Spanish windlass, made by loosely knotting about the limb a towel or other strong piece of cloth and then twisting a stick in it until all circulation ceases, is equally effective. Later came the use of the Esmarch rubber bandage; and until within the past few years, was for a time in regular use among surgeons. With this the blood was entirely stripped from the limb. Beginning at the foot, for example, it was carried, each turn drawn very firmly and slightly overlapping the last, up the leg, to a point well upon the thigh, where it was fastened. Then it was unwound from below up to the final turn, leaving the limb white and exsanguinated. This method is now little used. It had its advantages, but they were outweighed by certain objections. One of these is the fact that vessels subjected to such an extreme emptying and stripping process are irritated thereby. Their vasotonic nerves are temporarily paralyzed, and when the blood is again permitted to enter the limb there is distinctly more oozing from such dilated capillaries and arterioles than would otherwise be the case. Elevating the limb or the stump, and firmly pressing for an hour or longer upon the site of the wound, do to be sure minimize this oozing, but there is, nevertheless, commonly a clot formed therefrom within the wound. And all surgeons know that a wound left quite dry—cut flesh against cut flesh—always heals best and most quickly.

Again, in amputation, the operator, if he be a general practitioner, may have, become a bit rusty in his anatomical knowledge, and fail to locate the chief vessels. In the leg, we have Holden's rule: "One inch below the knee, one great artery to find; two inches, two great arteries; three inches, three great arteries." If the operator, because of their retraction, or because of a bit of fat or muscle falling over the open mouths, fails to find and control all these—and several minor ones—there is likely to be an ugly hemorrhage within a few hours. Here comes in an advantage of the present method in general use.

This consists in stripping—milking—by the fingers, for some minutes, the blood out of the elevated limb; the operator massaging along the course of the chief veins. Then, at the desired point, is applied the constriction, which is either an ordinary stout rubber bandage, or a very large rubber tube. In the former case this is ended by slipping what is left of the roll—after encircling the limb tightly a few times—beneath the final turn, the roll lying preferably over the chief vessels. Should a rubber tube be the choice, the larger in caliber the better, for it is less apt to injure the muscles and nerves beneath by its pressure; a tube of pure black gum an inch and a half in diameter, and long enough to encircle the thigh twice or thrice when unstretched is to be preferred. This is fastened very simply. We tie together the crossed ends, while still tense, with a short piece of wet bandage, using a single loop knot. Being wet it will not slip. Avoid tying a hard knot, for if the tense rubber be pricked in cutting it, the tube will be weakened and the cut be liable to enlarge and to give way when least desired. To remove, draw on the tube-ends first, thus making them once more smaller in caliber; whereupon the wet bandage loop can be untied with ease.

In consequence of the simple "milking" a small amount of blood remains in every vessel. These are not paralyzed, as is the case where the Esmarch bandage has been used, hence there is small tendency to oozing in the wound; and when the operator has any trouble in finding all the vessels, he strips sharply *down* the chief artery—the popliteal for instance—whereupon every unsecured artery and arteriole will spurt, and be located with ease.

Should the operation be one above the foot or above the hand, many operators think it best to tighten the constricting rubber bandage or tube upon the proximal limb rather than the distal, believing that because the two bones in the latter case protect the arteries between them, a greater degree of constriction is needed than if the thigh or the upper arm be chosen; and hence the leg and the forearm should be avoided for this purpose. But upon the two proximal limbs there is a choice of situations. The upper third of the thigh is so great in circumference as not to be desirable for constriction unless under compulsion, and in the lower third the external popliteal nerve lies near enough to the surface, when approaching the outer hamstring, to have occasionally been paralyzed from undue pressure. As to the arm, constriction at its middle third may paralyze the musculo-spiral nerve where it lies in its groove against the humerus. Hence, we should *select* the middle of the thigh, we should *avoid* the middle of the arm.

Our bloodless work is not wholly limited to the limbs. The scalp may, for instance, be included in this fiel by the use of a tube carried tightly about the head.

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[*] Read before the N. Y. State Medical Association, Oct. 18, 1900.

Smith McMullin, Evanston, Wyo., to Gardnersville, Nev.

Jas. Monroe, Custer, to Nampa, Idaho.

W. E. Maxwell, Portland, Ore., to Kellyton, Ala.

J. W. Macfarlane, 3617 Butler, to 200 9th St., Pittsburg, Pa.

H. McGrew, Silverton, to Pleasant Ridge, Ohio.

P. C. Manley, Mayfield, to 1418 Pittston Ave., Scranton, Pa.

W. H. Moore, 434 Atkin St., to 326 W. Park Ave., Knoxville, Tenn.

H. R. Martin, 293 S. Robey St., to 871 Jackson Boul., Chicago.

J. W. Montgomery, Toledo, to Birds, Ill.

R. E. Mason, Gastonia, N. C., to Seneca, S. C.

W. A. Montgomery, Omaha, Neb., to 334 Dearborn St., Chicago.

R. A. Noble, 2259 Calumet Ave., to Chicago Hospital, Chicago.

R. F. Nomocks, Vossburg, to Poplarville, Miss.

J. G. Orton, Binghampton, N. Y., to Dayton, Fla.

W. E. O'Quinn, Las Cruces, to Torpedo Mining Co., Organ, N. M.

J. W. Price, Boonville, Miss., to Helena, Ark.

J. T. Rogers, Excelsior, to Statesboro, Ga.

H. L. Rine, 120 Elm, to 272 N. 3rd St., Newark, Ohio.

L. F. Richardson, Fairfax, to Terrill, Iowa.

S. M. B. Smith, Wausau, to Crandon, Wis.

J. M. Strayhorn, Bartlett, to over First Nat. Bank, Waco, Tex.

Chas. Schaper, 1304 N. 8th St., to 722 Michigan Ave., Sheboygan, Wis.

Geo. H. Stover, California Bldg., to Opera House Blk., Denver, Colo.

I. S. Stone, 3044 14th St., N. W., to 1449 R. I. Ave., Washington, D. C.

G. B. Somers, 1034 Mission, to 2416 Webster St., San Francisco, Cal.

L. W. Shannon, Granada, Kan., to 398 Wells St., Chicago.

Jessie B. Scott, 1215 25th St., Des Moines, Iowa, to 2405 N St., South Omaha, Neb.

J. N. Shaff, Cisco, to Alton, Ill.

A. F. Stotts, Soldier, Pa., to 522 N. 1st St., Marshalltown, Iowa.

H. M. Trankle, 509, to 663 W. Monroe St., Chicago.

J. E. Torrence, Oxford, to Presbyterian Hospital, Cincinnati, O.

The King-Scherer Co., 17 Park Pl., to 225-233 Fourth Ave., New York City.

J. E. Thompson, Peckville, to La Grande St., Pittston, Pa.

A. V. Thompson, Snowville, N. H., to Woodfords, Me.

G. H. Willis, Galien, to New Troy, Mich.

W. S. Watson, Fishkill-on-the-Hudson, N. Y., to Box 362 Salt Lake City, Utah.

M. A. Walker, Melrose, to Butte, Mont.

H. C. Wood, Irvington, to Vienna, Ga.

W. S. Whitwell, Fishkill-on-the-Hudson, to 30 W 11th St., New York City.

W. C. Welburn, 420 Woodland, to 501 Russell St., Nashville, Tenn.

C. C. Young, 348 Ogden Ave., to 231 Ashland Boul., Chicago.

New Patents.

Patents of interest to physicians, Jan. 1 and 15:

665,304. Vaginal irrigator. Moriz Bauer, Vienna, Austria-Hungary.

664,923. Atomizing apparatus. Robert L. Benson, Chicago, Ill.

664,840. Syringe. Byron J. Douds, Canton, Ohio.

665,084. Nasal inhaler. Marshall B. Gardner, Aurora, Ill.

665,243. Medical bed. Adolfo Luria, Chicago, Ill.

665,258. Liquid pasteurizer. Lars C. Nielsen and P. V. F. Petersen, Copenhagen, Denmark.

664,893. Spraying nozzle. Peter C. Peterson, Ottawa, Kan.

665,371. Syringe. Walter H. Pumphrey, New York City.

665,771. Log-holder for use in lithotomy. Willis W. Dean, Sioux City, Iowa.

665,617. Making potassium hydroxid. Heinrich Precht, Neustassfurt, Germany.

665,468. Chemical apparatus. Ralph C. Robinson, Boston, Mass.

665,756. Medicinal bath cabinet. Fortunee R. Ryan, Memphis, Tenn.

665,963. Electrolyzing soluble salts. A. J. O. Chalandre, L. J. B. A. Colas, Paris, and C. J. Gerard, Seveux, France.

665,879. Piperazin quinate and making same. Wilhelm Connstein, Charlottenberg, Germany.

666,135. Making cyanogen bromid. Carl Goepner and W. Witter, Hamburg, Germany.

666,221. Apparatus for decomposing solutions. Daniel N. Hathorne and H. E. Hobson, Rumford Falls, Maine.

666,094. Clinical thermometer. James J. Hicks, London, England.

666,210. Disinfecting apparatus. Michael Sheridan, New York City.

33,913. Design, ice or hot water bag, Christian W. Meinecke, Jersey City, N. J.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Jan. 10 to 16, 1901, inclusive:

George W. Adair, major and surgeon, U. S. A., member of a board at Fort Sheridan, Ill., to examine officers for promotion.

Ira A. Allen, acting asst.-surgeon, former orders amended so as to direct him to proceed from New York City, to Hot Springs, Ark., for temporary duty at the Army and Navy General Hospital at that place.

John M. Banister, major and surgeon, U. S. A., member of a board at West Point, N. Y., to examine officers for promotion.

Alfred E. Bradley, captain and asst.-surgeon, U. S. A., member of a promotion board at St. Paul, Minn.

William H. Brooks, acting asst.-surgeon, leave of absence granted.

Charles B. Byrne, major and surgeon, U. S. A., member of a promotion board at San Antonio, Tex.

Weston P. Chamberlain, lieutenant and asst.-surgeon, U. S. A., leave of absence granted.

Peter J. A. Cleary, lieut.-col., deputy surgeon-general, U. S. A., member of a promotion board at San Antonio, Tex.

Calvin DeWitt, lieut.-col., deputy surgeon-general, U. S. A., member of a promotion board at West Point, N. Y.

Franklin M. Kemp, lieutenant and asst.-surgeon, U. S. A., member of a promotion board at West Point, N. Y.

George J. Newgarden, captain and asst.-surgeon, U. S. A., sick ler [illegible] led.

[illegible] captain and asst.-surgeon, Philippine Caval [illegible] ndered his resignation, is honorably disch [illegible] ce of the United States, to take effect Jan. 31, 1901.

Samuel S. Turner, acting asst.-surgeon, member of a promotion board at Fort Sheridan, Ill.

Sanford H. Wadhams, lieutenant and asst.-surgeon, U. S. A., sick leave of absence from the Department of Porto Rico extended.

In addition to the above the following acting asst.-surgeons were directed to proceed from the places designated to San Francisco, Cal., for assignment to duty with troops en route to the Philippine Islands, and for subsequent service in the Division of the Philippines: James Bourke, Chicago; George J. Fanning, Sacaton, Ariz.; Almon P. Goff, Caton, N. Y.; Charles E. Jackson, Canal Fulton, Ohio; Joseph W. Love, Springfield, Mo.; Thomas C. McSwain, Bingham, S. C.; Robert C. Rogers, Bloomington, Ind.; James W. Smith, Chicago, and George B. Tuttle, St. Louis, Mo.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Jan. 19, 1901:

Asst.-Surgeon J. B. Dennis, to delay reporting for duty at Naval Academy until Jan. 21.

Asst.-Surgeon J. C. Pryor, ordered to duty at Naval Hospital, New York.

Asst.-Surgeon R. B. Williams, detached from the navy yard, New York, and ordered to the navy yard, Pensacola.

Asst.-Surgeon T. M. Lippitt, detached from the Naval Hospital, Yokohama, Japan, and ordered to Naval Hospital, Mare Island, via *Solace*.

Asst.-Surgeon B. L. Wright, detached from the Naval Hospital, Yokohama, Japan, and ordered to Naval Hospital, Mare Island, via *Solace*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Jan. 17, 1901:

Surgeon H. W. Sawtelle, leave of absence for thirty days granted by bureau letter of Dec. 18, 1900, revoked.

Surgeon F. W. Mead, leave of absence for sixty days from Jan. 21.

Surgeon A. H. Glennan, detailed to represent the service at meeting of Third Pan-American Congress, to be held at Havana, Cuba, Feb. 4-8.

Surgeon W. J. Pettus, granted leave of absence for two months from Feb. 5.

P. A. Surgeon J. A. Nydegger, granted leave of absence for thirty days.

P. A. Surgeon A. R. Thomas, to proceed to Shields, England, for special temporary duty. Relieved from duty at Glasgow, Scotland, and assigned to duty in the office of the U. S. Consul-General at London, England.

Asst.-Surgeon C. H. Lavinder, to proceed to Vineyard Haven, Mass., and assume temporary charge of the service during absence of Surgeon F. W. Mead.

Asst.-Surgeon John McMullen, granted leave of absence for twenty-one days from Jan. 21.

A. A. Surgeon R. C. Craig, granted leave of absence for seven days.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Jan. 19, 1901:

SMALLPOX—UNITED STATES.

California: Oakland, Dec. 29-Jan. 5, 1 case.

Connecticut: Bridgeport, Jan. 7, 3 cases.

Illinois: Cairo, Jan. 5, 8 cases; Chicago, Jan. 5-12, 19 cases.

Kansas: Wichita, Jan. 5-12, 6 cases.

Maryland: Baltimore, Jan. 5-12, 1 case.

Massachusetts: Springfield, Jan. 5-12, 1 case.

Minnesota: Dec. 29-Jan. 5, Minneapolis, 1 case; Winona, 30 cases.

New Hampshire: Manchester, Jan. 5-12, 21 cases.

New York: New York, Jan. 5-12, 17 cases, 3 deaths.

Ohio: Jan. 5-12, Ashtabula, 4 cases; Cleveland, 51 cases.

Pennsylvania: Philadelphia, Jan. 5-12, 1 death.

Tennessee: Jan. 5-12, Memphis, 8 cases; Nashville, 5 cases.

West Virginia: Wheeling, Jan. 5-12, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, Dec. 22-29, 12 cases.

Canada: New Brunswick, Port Elgin and Cape Tarmentine, Dec. 28, 40 cases.

England: Leeds, Dec. 29-Jan. 5, 1 case; London, Dec. 22-29, 1 case.

India: Bombay, Dec. 4-18, 3 deaths; Calcutta, Dec. 1-15, 81 deaths; Karachi, Dec. 2-16, 16 cases, 2 deaths; Madras, Dec. 8-14, 1 death.

Mexico: Vera Cruz, Dec. 29-Jan. 5, 4 cases, 2 deaths.

Russia: St. Petersburg, Dec. 15-22, 5 cases, 1 death.

YELLOW FEVER.

Cuba: Dec. 29-Jan 5, Havana, 5 deaths; Matanzas, 1 case.

Mexico: Vera Cruz, Dec. 29-Jan. 5, 1 case.

CHOLERA.

India: Bombay, Dec. 4-18, 6 deaths; Calcutta, Dec. 1-15, 56 deaths; Madras, Dec. 8-14, 1 death.

PLAGUE.

China: Hongkong, Nov. 24-Dec. 1, 2 deaths.

India: Bombay, Dec. 4-18, 178 deaths; Calcutta, Dec. 1-15, 39 deaths.

Turkey: Constantinople, Jan. 11, on steamship *Berrig*, from Poti.

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Original Articles.

THE TECHNIQUE OF BLOODLESS WORK.*

ROBERT H. M. DAWBARN, M.D.
Professor of Surgery, New York Polyclinic Medical School: Surgeon to New York City Hospital, etc.
NEW YORK CITY.

The older the surgeon, the greater becomes his respect for a drop of blood. All cutting operations on the extremities should be bloodless ones, and all elsewhere as nearly so as possible. Every drop of blood saved is a safeguard against shock; and bloodless work permits the same speed and facility of dissection that one could employ on the dead body.

At one time Petit's tourniquet, or some other, similar in principle, was the chief means for accomplishing this end. In emergency a Spanish windlass, made by loosely knotting about the limb a towel or other strong piece of cloth and then twisting a stick in it until all circulation ceases, is equally effective. Later came the use of the Esmarch rubber bandage; and until within the past few years, was for a time in regular use among surgeons. With this the blood was entirely stripped from the limb. Beginning at the foot, for example, it was carried, each turn drawn very firmly and slightly overlapping the last, up the leg, to a point well upon the thigh, where it was fastened. Then it was unwound from below up to the final turn, leaving the limb white and exsanguinated. This method is now little used. It had its advantages, but they were outweighed by certain objections. One of these is the fact that vessels subjected to such an extreme emptying and stripping process are irritated thereby. Their vasotonic nerves are temporarily paralyzed, and when the blood is again permitted to enter the limb there is distinctly more oozing from such dilated capillaries and arterioles than would otherwise be the case. Elevating the limb or the stump, and firmly pressing for an hour or longer upon the site of the wound, do to be sure minimize this oozing, but there is, nevertheless, commonly a clot formed therefrom within the wound. And all surgeons know that a wound left quite dry—cut flesh against cut flesh—always heals best and most quickly.

Again, in amputation, the operator, if he be a general practitioner, may have become a bit rusty in his anatomical knowledge, and fail to locate the chief vessels. In the leg, we have Holden's rule: "One inch below the knee, one great artery to find; two inches, two great arteries; three inches, three great arteries." If the operator, because of their retraction, or because of a bit of fat or muscle falling over the open mouths, fails to find and control all these—and several minor ones—there is likely to be an ugly hemorrhage within a few hours. Here comes in an advantage of the present method in general use.

This consists in stripping—milking—by the fingers, for some minutes, the blood out of the elevated limb: the operator massaging along the course of the chief veins. Then, at the desired point, is applied the constriction, which is either an ordinary stout rubber bandage, or a very large rubber tube. In the former case this is ended by slipping what is left of the roll—after encircling the limb tightly a few times—beneath the final turn, the roll lying preferably over the chief vessels. Should a rubber tube be the choice, the larger in caliber the better, for it is less apt to injure the muscles and nerves beneath by its pressure: a tube of pure black gum an inch and a half in diameter, and long enough to encircle the thigh twice or thrice when unstretched is to be preferred. This is fastened very simply. We tie together the crossed ends, while still tense, with a short piece of wet bandage, using a single loop knot. Being wet it will not slip. Avoid tying a hard knot, for if the tense rubber be pricked in cutting it, the tube will be weakened and the cut be liable to enlarge and to give way when least desired. To remove, draw on the tube-ends first, thus making them once more smaller in caliber; whereupon the wet bandage loop can be untied with ease.

In consequence of the simple "milking" a small amount of blood remains in every vessel. These are not paralyzed, as is the case where the Esmarch bandage has been used, hence there is small tendency to oozing in the wound; and when the operator has any trouble in finding all the vessels, he strips sharply *down* the chief artery—the popliteal for instance—whereupon every unsecured artery and arteriole will spurt, and be located with ease.

Should the operation be one above the foot or above the hand, many operators think it best to tighten the constricting rubber bandage or tube upon the proximal limb rather than the distal, believing that because the two bones in the latter case protect the arteries between them, a greater degree of constriction is needed than if the thigh or the upper arm be chosen; and hence the leg and the forearm should be avoided for this purpose. But upon the two proximal limbs there is a choice of situations. The upper third of the thigh is so great in circumference as not to be desirable for constriction unless under compulsion, and in the lower third the external popliteal nerve lies near enough to the surface, when approaching the outer hamstring, to have occasionally been paralyzed from undue pressure. As to the arm, constriction at its middle third may paralyze the musculo-spiral nerve where it lies in its groove against the humerus. Hence, we should *select* the middle of the thigh, we should *avoid* the middle of the arm.

Our bloodless work is not wholly limited to the limbs. The scalp may, for instance, be included in this field by the use of a tube carried tightly about the head. This rests in front in the depression between the frontal eminences and the superciliary ridges; at the sides, runs just above the ears; and behind is fastened just below the inion.

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* Read before the N. Y. State Medical Association, Oct. 18, 1900.

Similarly, in amputation or excision of tumors of the female breast, for reasons other than malignancy, the work may be made almost bloodless by cording the breast at the body—first passing through its base crosswise a pair of long mattress needles, to insure against the tube slipping off.

About the bladder, perineum and genitals, both male and female, Trendelenburg's posture secures by gravity a degree of anemia which constitutes a great safeguard, in addition to other advantages resulting from this position. And in work about the face and mouth, and upper part of the neck—a peculiarly bloody field—a ligation of one or both linguals, if a tongue excision, or of the external carotids in other cases, makes a wonderful difference in the ease and safety of the work.

The production of a degree of anemia of the trunk and head by cording of the extremities, was a suggestion of Dr. David Webster, in the *New York Medical Journal,* during 1887, his idea being to make use of this plan for the safety of the patient when the operator has reason to fear collapse from the anesthetic. At first the constricting bands are only placed tightly enough to cause the limbs to swell; and then the arterial flow is also shut off. Some quarts are thus accumulated in the extremities, maintaining a reserve guard of pure blood. And if during the operation the patient suddenly develops signs of excessive narcosis, by removing the bands and holding up the limbs the pure blood at once is mingled with the anesthetized, and almost instantly the patient wakes up. The method is little used, but is certainly ingenious.

This same idea, of constricting the extremities, enables one to do comparatively bloodless surgical work on the trunk, face, neck or brain, and is worthy of more frequent usage than at present. It is also unquestionably the best, indeed the only reliable, method of treating medical—as distinct from surgical—hemorrhage. By a medical hemorrhage, I mean one where direct mechanical control is out of the question: hemoptysis, hematemesis, and apoplexy, for example. It is a curious fact that this best of all methods—and a very old one—has been completely lost sight of by most practitioners.

Some years ago I wrote a paper[1] entitled "Medical Hemorrhage Surgically Treated," and therein discussed this matter. At that time Dr. William Gilman Thompson wrote me that he entirely agreed with me that it was the most reliable way of treating ugly hemoptysis, that he had so found it in his service in the New York Hospital. Nevertheless, Loomis' "Practice" does not even indicate by so much as a word that he ever heard of the method, nor do I now remember any other work upon practice which discusses it.

As to drugs, Dr. Loomis was a pessimist. He advised the use of morphin, simply to quiet the patient and slow the breathing; but nothing else did he think of much value for this purpose, except aconite, if the heart were pumping too vigorously. We know that one of the old names for aconite—besides monkshood and wolfsbane—is "the vegetable lancet"—bleeding a patient into his own veins.

What aconite can do in a very feeble and slow way, cording the extremities does effectively and promptly. Three limbs should be so corded close to the trunk that they swell visibly. This swelling continues until, from cardiac and brain anemia, the patient is made somewhat faint—and consequently there is less vigorous pumping of blood out of broken vessels, and there is a better chance for a firm clot to form there, opposing fresh bleeding when, after two or three hours, the circulation is slowly allowed to resume its ordinary course. The reason three limbs, not four, are to be corded, is to insure their safety. After a half-hour we cord the fourth limb and let up on the first one, and so on in regular order.

A recent sensational murder in politics, in another state, produced a bit of most antiquated and archaic surgery—according to the newspapers and several medical journals, and the statement went uncontradicted. I allude to the fact that in order to try to stop the bleeding from his wounded lung the surgeon bled him a pint or more from his arm! This plan has antiquity to recommend it, but nothing else. He died of shock, apparently, and we all know that hemorrhage invites shock. Had the extremities promptly been corded effectively, accumulating venous blood in them, the ending might well have been a different one.

Obviously, the same method is the proper one in apoplexy, in which there is a ruddy face, hard pulse and stertorous breathing. If the patient is plethoric, bleeding is best, but not otherwise, for he would need that blood later on. A temporary bleeding, into his own vessels, is the thing.

Given a case in which atheromatous vessels, too much eating and drinking, and occasional attacks of dizziness or semi-unconsciousness point toward the probable ending of the story, we should tell the relatives that if this patient should ever be found unconscious and snoring, with a red face, the first thing to do should be to apply Spanish windlasses, even before sending for the doctor; and they should be shown how to make and use them. In this way what might otherwise prove a fatal apoplexy would very likely be reduced to a comparatively small one.

Applying the bloodless method to the surgery of acute injuries, let me discuss for a minute a plan which I got many years ago from Dr. Gerster. Suppose we are dealing with a fresh but obscure injury at the elbow. It may be a fracture, or a dislocation, or both. Because of the swelling an exact diagnosis is impossible; and yet the doctor's reputation may in that case well depend on his accurate diagnosis—for on that alone can his treatment be based. If you wrap the elbow of a skeleton in a pillow and then endeavor to recognize the bony prominences through it, you will approximate the situation. Here comes the point in question, which I have used with satisfaction repeatedly. Anesthetize the patient; then apply the rubber bandage, slowly but firmly, from fingers to shoulder. Leave it on for, say, fifteen to twenty minutes; then undo it from below, but leave the final turn or two in place. Upon examining the elbow the swelling will be found to have disappeared, all the congestion and all the edema being gone; and you can recognize all bony points as accurately as upon the other arm. If there is a fracture, set it; if a dislocation, reduce it; then let the swelling return. You know the facts, can state the probable prognosis, and have protected your reputation.

Time only permits a momentary allusion to certain additional interesting fields which could properly be studied under the head now being discussed. In snakebites, for instance, perhaps the most important point (next to venom antitoxin), is to make a free incision at the bite, and, having corded the extremity high up, milk out every drop of blood, from both directions—preferably with the rubber bandage—stripping toward the cut in both instances. And then fight the enemy in detachments. That is, when the patient is a little stronger let up on the tourniquet a moment, thus admitting a little blood to keep alive the limb, and also inevitably giving entrance into the general circulation to a little of the poison which presumably still remains in spite of the stripping. When the heart has withstood the shock of this, again fight another small squad of the enemy by letting up a moment, and so on.

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[1] N. Y. Medical Record, Jan. 2, 1892.

We are all interested in tonsillotomy, and all do it *at times*. I should like very much to have you try the bloodless method, on which I have written two or three papers.[2] Done *before* the cutting, and by aid of eucain, it is easy to pass, with a stout semicircular needle and holder, the purse-string suture as advocated by the writer; and, after tightening this, the biggest and ugliest tonsillar stump can not bleed a drop when severed. I have heard it said that the method must be difficult of accomplishment, but those who said so have not tried it. It is in adults, chiefly, that tonsillar hemorrhage is dangerous, and nothing can be simpler than this plan, used upon the adult. I believe that it will come into regular use in time.

Under eucain the vessels are not contracted at all—a good point in tonsillotomy, because cocain so shrinks the mass, temporarily, that it is difficult not to leave a large stump, which protrudes after the effect of the drug has worn off. But this power of cocain—and to an even greater degree and a somewhat more lasting one, that of suprarenal extract—is of the utmost value *prior* to certain operations, for example, within the nose. It is a good plan to use the suprarenal extract first; and when the mucous membrane has become pale, almost bloodless, then cocain in almost any strength can be safely applied, and the operation will be devoid of hemorrhage.

Similarly, solutions of suprarenal extract and of cocain are of great advantage when applied by aid of wet gauze packed into the rectum, vagina, or bladder before cutting for the removal of growths, or for other purposes, in these vascular fields.

I regret that bloodless work as applied to *starving* malignant growths supplied by the external carotids can not be studied to-day. It is too large a topic. But it may interest you to know that the writer has now cut out the entire external carotid more than thirty times in the past five years, and it has also been done by Drs. Keen and Da Costa, in Philadelphia, by Drs. Brewer, Blake, W. Meyer, and Lilienthal, in New York, and by Dr. Nicolson, in Atlanta, Ga.; and from all these instances only three or four deaths have resulted from the operation, these being all in cachectic patients suffering from malignant growths—a rather unexpectedly low mortality. The operation, to be of use, must be performed on both sides, but not at one sitting, of course. And merely *ligating* upon both sides is quite useless, for within a few days pulsation will return from outside sources by anastomosis. It is the more radical measure of complete double *excision* which I am here discussing.

When the writer's paper on this topic was read before the New York Surgical Society, last spring, five patients were shown with starved and shrunken malignant growths—cancers and sarcomata—one of which dated back about five and a half, and one four years. It really seems to offer, as a method, when performed upon both sides, a clear ray of hope to the otherwise hopeless; for nothing can be more pathetic and desolate than the outlook for a patient with cancer of the tongue or floor of the mouth, for example, which has advanced beyond reach of the knife.

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ANALGESIA FROM SPINAL SUBARACHNOIDEAN COCAINIZATION.*

JOHN B. MURPHY, M.D.

CHICAGO.

Since the anouncement of the first death from chloroform anesthesia the medical profession has been constantly looking for an anesthetic that might be administered without danger. Ether then was reinstated and heralded as a drug without danger, when given as an anesthetic. Shortly after its adoption several deaths occurred which were attributed to its use, and the mortality has been constantly increasing, especially within the last five years.

The combination of ether, alcohol and chloroform was submitted to the profession as a substitute for the individual drugs and the claim made that the danger would be less. The various mixtures, however, have met the same fate as the separate ingredients.

Nitrous oxid, the oldest of the general anesthetics, was again advanced, as was also ethyl bromid, but both were found impracticable, except for very short operations. Each of the anesthetics mentioned above has its special field wherein it may be used with less danger than any of the others, none of them answering the requirements for the performance of all surgical operations.

Local analgesia was used long before the general. The various means of producing it are: 1, by rendering the tissues ischemic; 2, frigid analgesia, being produced by ice and the various sprays; 3, nerve pressure analgesia; 4, dermal and subdermal analgesias—by the injections of solutions of cocain, eucain, nirvanin, etc.; 5, tissue-infiltration analgesia—as Schleich's and its modifications; 6, local application to mucous membranes of cocain, eucain, etc.; 7, injections of the various local anesthetics into the nerve trunks supplying the field of operation, and finally, 8, subarachnoidean spinal analgesia.

To-day we are to consider from a theoretical, as well as a practical standpoint, the last-named method, with the meager data now at our command.

Dr. J. Leonard Corning, in 1884 and 1885, demonstrated that analgesia could be produced by the submeningeal injection of cocain into the spinal canal. He also suggested a method of treatment for painful diseases of the spinal cord by this means, but the surgical application was not considered by him.

Bier, Aug. 16, 1898, demonstrated that analgesia of the extremities for surgical purposes could be produced by this means. He performed his first operation, a resection of a tubercular foot, by using 3 cubic centimeters of a .5 per cent. solution, containing 1/4 grain of cocain. Following this he performed, within one week, six other operations by the same method. In one of his cases the analgesia involved the entire body, excepting the head and upper portion of the neck. This case was that of a boy 14 years of age; 7½ minims of a 1 per cent. solution, equivalent to 1/12 grain of cocain, was used. August 24, eight days after using it on the first patient, Bier decided to have the effects of the drug studied upon himself, and he was accordingly given an injection. The needle was inserted into the spinal canal, but did not accurately fit the syringe barrel, so that a considerable quantity of the cerebrospinal fluid was lost and a very indefinite amount of cocain was injected. There was no analgesic effect produced, but he suffered from severe cephalalgia, some nausea, considerable vertigo, etc., which symptoms persisted for nine days. Whether the unpleasant effects were due to the amount injected or to the loss of a large quantity of the cerebrospinal fluid, it is, of course, impossible to state. His associate, Dr. Hildebrand, was given a full injection of one-sixth of 1 grain the same day, and with him the analgesia was perfect and there were no untoward symptoms.

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[2] N. Y. Medical Record, Dec. 17, 1892; N. Y. Medical News, May 20 and June 10, 1899.

* Read before the Western Surgical and Gynecological Association, Minneapolis, Dec. 27-28, 1900.

Bier concluded, notwithstanding the unsatisfactory result obtained on himself, that this mode of producing analgesia was applicable to a wide range of surgical procedures involving the extremities, and further, that it should be administered with extreme caution, the greatest care being exercised in the preparation of the solution, the syringe and the back of the patient. He further advocated that local analgesia of the tract of the needle be first produced.

Up to the present time there has been no great deviation from the technique outlined by Bier, excepting the range of dosage and the substitution of other materials for the cocain, as eucain, nirvanin, antipyrin, etc.

While the results of Bier were not very flattering, it encouraged others to take up this line of investigation, the most conspicuous in the field being Tuffier. The number of investigators has since become so large that to-day with only a moderate effort I am able to present 631 operations under spinal analgesia. The names of the operators are given in alphabetical order, without reference to priority, as in this way they are more accessible for reference. The successful cases will not be considered in detail. Of the 631 cases here reported perfect analgesia was obtained in 94, or 45 per cent; partial in 2.21 per cent., and in 3.32 per cent. it was a total failure. Of the deaths which were reported to have occurred as a result of this method, I fail to find one directly attributable to the cocain. Of those which occurred in Tuffier's clinic, in only one was it possible to associate death with the injection, and in that case marked cardiac lesions were found post-mortem. This one death has been reported in a number of articles as directly due to the cocain, but a close analysis of the details shows there is good ground for believing that the drug was in no way responsible for it.

M. Racoviceanu Pitesci, of Bucharest, states that he heard of two deaths from spinal injection occurring in Roumania, but he says they were not in his practice and as he fails to give the details, I have not included them in my list. In three of the 125 injections given in Pitesci's clinic the symptoms were spoken of as dangerous; but in none did they terminate fatally.

We will now consider: 1, the physiologic effect of the injection; 2, the dosage; 3, the rapidity of injection; 4, the constant and occasional symptoms produced; 5, the analgesia following, and 6, post-operative symptoms.

1. *The Physiologic Effect.*—Corning recognized the affinity of cocain for the sensory nerve fibers and therefore reasoned that the application of the drug to the spinal cord would produce analgesia over the area supplied by the spinal nerves so treated. That the effect is produced by the direct application of the cocain to the posterior roots and ganglia and not to the cord itself, is supported by the clinical observation that in a number of cases the analgesia is an ascending one, taking place in the trunk and neck before it has appeared in the extremities. If it were a sensory tract paralysis it should occur in the lower extremities first. The sense of contact is not affected; the reflexes are slightly altered—usually diminished; muscular sense and co-ordination are often affected, as after the injections the patients have considerable ataxia of gait; intestinal peristalsis and uterine contractions are rather stimulated then depressed, while sphincteric action of bladder, vagina and rectum are often completely abolished. The increased peristalsis, with sphincteric relaxation, accounts for the frequent defecations and less frequent urinations which take place during the course of the anesthesia. The above leads to the speculation: Can not reflex ileus be treated by this means?

2. *Dosage.*—The great majority of operators at the present time, who have adopted cocain analgesia, agree that the 2 per cent. solution is preferable, except in younger patients, where the 1 per cent., as advocated by Bainbridge, should be used. They also agree that the quantity of 2 per cent. solution injected should range from 7 to 20 minims in the adult, depending on the individual peculiarities of the patient, the location and probable duration of the operation, etc. Ten to 15 minims is the average amount required, it being seldom necessary to use more than 15, and except in hemorrhoidal and vaginal operations, less than 10. Tuffier has used 2/3 grain without unpleasant symptoms.

The method of preparation of the solution is of great importance, as cocain is a very unstable drug when in solution and exposed to the air. It will not tolerate boiling for sterilization. The solution should, of course, be freshly prepared at the time of operation, by adding sterile water to a definite quantity of the crystals, weighed amounts of which may be previously sterilized in waxed papers and kept ready for use. An excellent method is as follows: A strong solution of the hydrochlorate of cocain is prepared in distilled water, so that a certain amount will represent 3/10 of a grain. This is placed in sterilized glass tubes and the water evaporated in vacuo. The dried crystals left by evaporation are sterilized at a temperature of 180 F. and the tube sealed in the flame. A file-mark is placed at the top of the tube where it is to be broken off when ready for use and another file-mark represents the level to which exactly 15 minims of water will come. At the time of operation the top of the tube is broken off and cold sterile water added to the second file-mark, making exactly 15 minims of a 2 per cent. solution.

Glass ampullæ containing the solution have been prepared by certain manufacturers, by placing the crystals in sterile water, rapidly heating the solution a number of times to 180 F., and then sealing the tube. Last week we used one of these tubes that had been prepared four months previously by a Chicago instrument house. The result was ideal, showing the length of time which cocain may remain in solution without decomposition when kept in a sealed tube. If the solution is the least cloudy the cocain will be found to have decomposed. It can not be too strongly emphasized that the solution should be sterile to be free from danger.

The ordinary hypodermic syringe with a sliding attachment and the 3-inch needle, the latter having a lumen of 8/10 mm. and an external diameter of 1.1 mm. may be used. Special cases containing all the necessary instruments, etc., are now prepared by manufacturers. The syringe must be made of material that will permit of boiling the entire instrument. The quantity of solution drawn into the syringe should exceed that which is to be used, as some may be needed to free the needle from blood in case there is difficulty in entering the canal. The set-screw governing the quantity should be placed before connection with the needle is made.

Before inserting the needle the skin may be frozen with ethyl chlorid and a puncture made with a scalpel, so that no infection might be carried from the skin along the tract of the needle. It is our custom to fill the needle with cocain solution before it is inserted, thus preventing the admission of blood into the lumen in transit through the tissues of the back.

The space between the fourth and fifth lumbar vertebræ ½ inch to the side of the median line is the point of election. In this position it will be seen that we are some distance below the conus medullaris and directly over the cauda equina. The patient is placed in a sitting position with the limbs extended on the table and the back curved as far forward as possible. Standing at the patient's left, the thumb is placed over the fourth lumbar process so that its tip extends 1/3 inch below the spinous process and the same distance to the right of the median line. The needle is then passed in, in a horizontal direction, just at the tip of the thumb. Occasionally the bone is encountered, when it will be necessary to change the direction of the needle downward. When the needle reaches the interspinous ligament there is a little additional resistance, which is suddenly overcome when it penetrates through that and into the spinal canal, this latter being demonstrated by the escape of cerebrospinal fluid. If the fluid does not escape the patient should be requested to strain or cough, which will often cause it to be forcibly ejected. In one case of deformed back and pelvis it was impossible for us to insert the needle into the canal. Dr. E. H. Lee had a similar experience, as did also Dr. La Place.

Tait and Caglieri, of San Francisco, have in three cases injected cocain solution into the subarachnoidean space between the sixth and seventh cervical vertebræ. Their results were good and they believe that there is no danger of traumatism to the cord in this situation, but the experiments of Masso and Aducco, who injected solutions of cocain into the fourth ventricle in certain of the lower animals showed that this procedure was invariably followed by almost immediate death, due to respiratory and cardiac failure.

These experiments argue against the safety of the high injections, which should certainly not be used until after thorough and careful investigation has been made.

3. *Rapidity of Injection.*—The fluid should be injected slowly, from forty to sixty seconds being consumed in the procedure. Goffe states that when the injection is sudden and forcible the analgesia will extend higher than when it is slowly given. This statement is denied by Marx. The solution should never be injected except when the cerebrospinal fluid is flowing from the needle. We do not consider it good practice to repeat the injection immediately or soon after in the same patient, although Marx has carried the analgesia for eight hours by repeated injections and has observed no untoward symptoms. His cases were all obstetric. If it is desired to continue the analgesia, a small quantity of chloroform or ether may be administered.

4. *Symptoms Produced by the Injection.*—One of the first to appear is a sense of heat passing over the entire body, and later thirst. From three to fifteen minutes after the injection, most frequently seven to eight, nausea and one or two attempts at vomiting occur. Sometimes the nausea continues for ten minutes, and there may be several efforts at emesis. Preceding the vomiting there is the usual pallor, increased frequency of the pulse, which, however, may be very slow, diminution of arterial tension and perspiration. In other words, we have all the symptoms which ordinarily accompany nausea from any reflex cause. Perspiration may be very profuse, as it is in all cases of cocain intoxication, but the same symptom has been noted after the injection of saline solution into the subarachnoidean space. The pulse may become scarcely perceptible at the wrist and the facial expression is often that of profound depression. These untoward symptoms usually last but a few minutes and then disappear. In several cases that have been reported, the symptom of collapse, which occurred a short time after injection, was very alarming. McDonald records one where the respiration went up to 60 or 80 a minute, cyanosis was marked and the patient became almost pulseless. Large doses of stimulants were necessary to revive him. We have noted in a number of cases that the more severe the operation the more rapidly have the symptoms of depression, due to the cocain, disappeared.

The capillary circulation, as a rule, remains good, even when the arterial tension is very low. Respiration has not been materially affected in any of our cases, but several authors have reported it as sighing in character. As stated above, McDonald observed a case where the respirations were increased to 60 or 80 per minute, with marked cyanosis.

The sphincter ani is frequently relaxed, even to the extent of allowing involuntary evacuations on the table. Occasionally the vesical sphincter is relaxed. The relaxation of the vagina and rectum, which is so common in cocain analgesia, would theoretically be of advantage in obstetric cases.

Various drugs, given hypodermically, have been recommended to counteract toxic symptoms, but probably the best are hyoscin hydrobromate, 1/200 grain, injected immediately after the cocain is administered, and nitroglycerin, 1/100 grain, given at the same time, or when nausea and vomiting first appear—Marx.

5. *The Analgesia.*—This first appears in from three to ten minutes after the injection, though it may be delayed to twenty, or even thirty minutes. Sometimes it is preceded by a short period of hyperesthesia involving different parts of the body.—Marx.

The analgesia almost always commences in the feet, but in rare instances is first noted as a band around the body extending downward on the fronts of the thighs. Still more rarely the analgesia is ascending from the level of injection, involving the thorax, the upper extremities, neck, face, and occasionally reaching to the scalp. It can be estimated that the analgesia will be perfect up to the costal arch and will involve all of the abdominal viscera. Amputations of the breast have been performed without pain, but the upper limit of the analgesic area rarely extends high enough for the performance of this operation.

The analgesia may be complete, partial, or entirely absent. Its duration is from twelve minutes to three hours, or even more. In one of Marx' cases it persisted five hours, but the average in our experience has been from twenty-seven minutes to one and one-half hours. During this period, particularly when the operation is a laparotomy, the tension of the muscles sometimes interferes with work, though not to a sufficient degree to seriously impede the continuance of the most difficult operation.

At first the use of the drug in spinal analgesia was *confined to persons in middle life, but since then it has* been clearly demonstrated that it may be administered with safety to patients of all ages, from infancy (Bainbridge, New York) to old age (Lyman, Eau Claire).

6. *Post-Operative Symptoms.*—When the operation has been completed and the patient returned to his room he usually complains of headache, which is sometimes very severe and lasts for several days, but the rule is that it subsides in from twelve to twenty-four hours. We have not observed emesis after the patient was removed from the table, but prolonged nausea and vomiting have been reported. (Barbat, two cases; McMonagle.)

Vertigo is occasionally present and sometimes a marked ataxia in gait. In rare cases the ataxia has extended to the upper extremities. It is extremely annoying to the patient and may persist five or six days.

The pulse, which may have been very rapid and weak during the course of the operation, soon returns to normal. Temperature usually occurs the evening following the injection. It is often preceded by a chilly sensation, rarely by a rigor. It may reach 104 F., or even 106.8 F.—Fowler. In our experience it has ranged from 99.5 to 102 F. The temperature is a spinal one and not in any way connected with the wound. It is probably due to irritation of the thermic center in the cervical portion of the cord, resembling, as regards its causation, the marked thermic elevation seen in spinal traumatism. The rule is that it disappears entirely by the following morning and does not recur, though in some instances it has been observed to persist three or four days.

The patient's general condition on the following day, even in laparotomies and other major operations, has been uniformly better than when ether or chloroform was used, and the tissue reaction to the traumatism has been less marked.

Various mental disturbances have been reported by different authors to have followed spinal injections of cocain. In the case reported by McDonald, previously cited, coma occurred; Hartmann and Fowler have both noted delirium. Exhaustion and prostration lasting one or two days have been reported by Severeanu, of Bucharest. The mental exaltation which so frequently follows use of cocain is often observed.

Stiffness of the neck and muscles of the back, various disturbances of vision, tonic contractions of different sets of muscles, pains along the spine, loss of heat and cold sensation in the analgesic parts, etc., have all been noted during the post-analgesic period.

Most of these symptoms also occur after spinal injections of eucain, which would lead us to believe that they are due to variations of tension in the spinal canal, or to irritation, rather than to the toxic effects of the drugs.

Goldan reports that he has observed pneumonia following spinal injections, due to the exposure from which the patient suffers while being prepared for the injection, and exposure during the operation. He argues from this that the so-called ether pneumonias are not always due to ether, but rather to the bodily exposure *during the preparation for the operation.*

7. *Failure to Obtain Analgesia.*—We will quote the statements of a number of operators as to the causes of failure:

Bogart believes that his 28 per cent. of failures were explainable by faulty technique or selection of cases. Irregularity in the action of the drug in different cases and at different times in the same case is beautifully illustrated in one reported by Bergmann, where acute cocainism followed a very small injection of the drug several days after a much larger dose had been given without untoward symptoms. Cartledge, of Louisville, had no failures in his cases and states that many of his patients were in better condition at the end of the operation than if other anesthetics had been used. Fowler had three failures, all of which were due to his inability to secure free flow of cerebrospinal fluid. He either obtained none at all or only a small quantity of very turbid fluid.

Goldan attributes three of his failures to a too large needle or a too small quantity of solution injected, but in a later paper he reports three additional failures for which he was unable to satisfactorily account. Matas attributes too small a dose as the cause of failure.

The uniformly good results of some operators contrast strongly with the uniformly bad results of others. The former is represented by the ideal experience of Morton, San Francisco, who in 31 cases had perfect analgesia in all and no serious untoward effects. The other class, larger in number, is composed of operators who have had a small number of cases in which the percentage of failures has ranged from 7 to 100. This great difference in results I can but believe is due to variations in technique.

Chronic alcoholics seem to be unfavorably affected by the drug, in some a failure of analgesia occurred—Coelho—and in others there was pronounced intoxication—McDonald.

The idiosyncrasy to cocain is more frequent than to any other drug and has been cited to explain the absence of analgesia noted by many authors—Racoviceanu Petesci, Alessiu, Pousson, Chavanaz and Coelho. The same reason has been given for the severe intoxication observed.

Substitutes for cocain in spinal analgesia are: 1. Eucain B was used in our fifth case, with only a partial analgesic effect. The solution was 2.5 per cent. Keen reports one case of perfect analgesia in which he used 1 c.c. of a 2 per cent. solution. The general opinion is that eucain can in no way take the place of cocain in this work, but certain authors advocate and use it exclusively. The unpleasant symptoms are usually the same as when cocain is used and the analgesia not nearly so satisfactory—Engelman. 2. Antipyrin was used in one case by Fowler, who injected 30 minims of a 2 per cent. solution; analgesia occurred to the level with the nipple in five minutes. All of the disagreeable symptoms were present, but were later in manifesting themselves than when cocain was used. Weber, of Chicago, uses a weak solution of antipyrin in combination with cocain. Combination of cocain and morphin has been used—Schleich's solution—by Matas, without, however, any marked change in the result. Marx observed in one case intoxication after using 1/6 grain of morphin in combination with the cocain.

One case of death is reported from pulmonary embolism nine days after the operation. It is not stated that the cause of death was verified by post-mortem examination.

Gumprecht's statistics of 17 deaths from lumbar puncture performed for diagnostic purposes in the presence of severe cerebrospinal lesions, have no value in guiding us as to the practicability of cocain analgesia.

The persistent false statements in regard to Tuffier's deaths would be amusing if it were not that they so outrageously falsified his experience.

OPERATOR.	ANALGESIA.			
	No of Cases.	Successful.	Partial Success.	Failures.
Anderson, C. H., Mississippi Valley Med. Association, Oct. 9-11, 1900	6	6	....	....
Bogart, J. B., N. Y. Academy Medicine	25	18	....	7
Boldt, H. J., N. Y. Med. Jour., Nov. 3, 1900	1	....	....	1
Bainbridge, Medical Record, Dec. 22, 1900	12	11	....	1
Cartledge, A. M., Southern Surgical and Gynecological Association, Nov. 13, 1900	8	8	....	....
Coe, H. C., N. Y. Acad. Med., Oct. 25, 1900	1	1	....	....
Dudley, A. P., N. Y. Acad. Med., Oct. 25, 1900	6	6	....	....
Fowler, Medical Record, Dec. 22, 1900	81	73	8	....
Goldan, S. O., N. Y. Acad. Med., Oct. 25, 1900; N. Y. Med. Jour., Dec. 22, 1900	31	25	2	4
Grandin, E. H., Medical Record, Dec. 22, 1900	3	....	....	3
Gibney, V. P., N. Y. Med. Rec., Dec. 22, 1900	5	5	....	....
Hartmann, F. S., Cook Co. Hosp., Chicago	1	*1	....	....
Lee, E. W., Phila. Med. Jour., Nov. 3, 1900	7	7	....	....
Lyman, J. V. R., Inter County Med. Society, Nov., 1900—Eau Claire, Wis.	10	10	....	....
La Place E., Phila. Med. Jour., Nov. 3, 1900	1	1	....	....
Marx, S., Medical Record, Oct. 6, 1900	23	23	....	....
Matas, R., Phila. Med. Jour., Nov. 3, 1900	9	9	....	....
McDonald, W. G., Southern Surgical and Gynecological Assn., Atlanta, Nov. 3, 1900	1	....	1	....
MacMonagle, B., Southern Surgical and Gynecological Association, Atlanta, Nov. 3, 1900	2	**2	....	....
Mallet, E. P., Southern Surgical and Gynecological Association, Atlanta, Nov. 3, 1900	2	1	1	....
Morton, A. W., Pacific Med. Jour., Nov. and Dec., 1900	31	31	....	....
Murphy, J. B., Chicago Clinic, Nov., 1900	40	38	1	1
Neff, J. M., Personal Correspondence	2	2	....	....
Kammarer, N. Y. Med. Record, Dec. 22, 1900	40	40	....	....
Pitesci Racoviceanu, JOURNAL A. M. A., Oct. 20, 1900	125	121	....	4
Podesta, B., Semana Medica, Buena Ayres, Aug. 23, 1900	21	21	....	....
Rodman, W. L., Southern Surgical and Gyn. Assn., Atlanta, Nov. 13, 1900	3	3	....	...
Weber, C., Cook County Hosp., Chicago	3	3	....	....
Tuffier, Semaine Medicale, May 16, 1900	130	130	....	....
Total	631	596	14	21

* Eucain.

** Dr. Barbat.

RHEUMATIC DISEASES OF THE EYE.

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JOLIET, ILL.

That the eye should be subject to rheumatic disease does not seem strange when we remember that its principal protective coat is a dense fibrous structure, the sclerotic; that it contains within it the delicate muscular fibers of the iris and ciliary body, and externally the muscular bands which move it about; that it is very vascular, one coat alone, the choroid, being largely made up of blood-vessels. The wonder is that the eye does not suffer more from a disease as prevalent as rheumatism and one which shows such a predilection for fibrous, muscular, and vascular structures.

It is not the object of this paper to discuss the subject of rheumatism in general. Suffice it to say that many observers believe it to be, like gout, caused by uric acid, a product of inefficient proteid metabolism; others by lactic acid, a fermentation product of the hydrocarbons. The researches of Singer, Achalme, Thirolox and Schüler would lead us to consider it to be a microbic disease. Reinhard believes the throat to be the common infection atrium.

Neither the eyeball nor its appendages are often affected by articular rheumatism. Iritis rarely occurs with it, but cases of conjunctival congestion without mucopurulent discharge have been noticed. We are compelled, however, to recognize the use of the term "rheumatism" as applied to an extensive group of symptoms which are probably dependent on the same causes with articular rheumatism. Sudden exposure to cold and overmuscular exertion are the principal exciting causes. Some of the diseases of the eye ascribed to the chronic type of rheumatism are iritis, episcleritis, scleritis, keratitis, orbital cellulitis, optic neuritis, choroiditis, ocular palsy, glaucoma, and opacity of the vitreous. The most important of these in point of frequency is iritis.

It has been computed by various writers of authority that iritis furnishes from 2.3 to 4 per cent. of all ophthalmic cases, and that syphilis and rheumatism are causative factors of this disease in 90 per cent. in the proportion of syphilis 60 and rheumatism 30. It was formerly taught that the etiology of iritis could be determined by simple inspection, and it is true that in many cases the papules or condylomata characteristic of syphilitic iritis can be made out.

In the absence of these masses in the iris, however, the diagnosis depends on the history of the individual case. In the absence of a syphilitic history or signs, we may find a personal or family history of acute or chronic articular rheumatism, symptoms of lumbago, neuralgia, sciatica, torticollis or pains in the articulations or fascia or sensitiveness to changes in the weather. Many cases are subject to relapses of iritis in spring and winter, seasons of the year when rheumatic affections are most prevalent. Some cases of iritis alternate with rheumatism in other parts and some recur with the swelling of the joints.

I will briefly report three cases representing, respectively, iritis, episcleritis, and scleritis of undoubted rheumatic origin.

A woman, aged 25, came to the clinic at the Illinois Eye and Ear Infirmary, in February, 1899. She gave a history of chronic articular rheumatism. Her father was a chronic rheumatic. A diagnosis of rheumatic iritis was made. There was present the typical sign of iritis: ciliary injection, pain in the temple, slight adhesions of the iris to the lens capsule, which yielded to atropin. No nodules were present in the iris. No history nor signs of syphilis, either inherited or acquired were evident.

The patient made a rapid recovery under salicylates internally and atropin in the eye and hot applications. She was free from trouble until last April, when she presented herself again after having suffered pain in the eye for two weeks. The same treatment was continued and improvement again occurred until the early part of this month, then, with a sudden change in the weather, came a relapse of the rheumatism and also a violent pain in the eye. This gradually yielded to hot baths and pilocarpin and leeches applied to the temple; but the exudate from the iris was more abundant and plastic, and adhesions more numerous and permanent.

Next in frequency occurs a superficial form of scleritis, episcleritis, which consists of a circumscribed inflammatory nodule, generally on the temporal side. It is not movable over the sclera, but firmly attached and of a reddish-violet color. This condition can never be looked on as merely a local disease, but must be regarded as the manifestation in the eye of some systemic derangement. The large percentage, if not all of them, are associated with the rheumatic diathesis.

A case illustrating this condition was recently under treatment at the Chicago Eye, Ear, Nose and Throat College. The patient, a man aged 40, had suffered from articular rheumatism for many years. He had had at least five attacks of episcleritis, and each had left small scleral scars with conjunctiva attached. There was a general chronic nodular condition of the sclera a few millimeters from the corneal margin. Atropin and massage had been used, and salicylates internally, but local blood-letting with the artificial leech gave most relief.

The most serious, but fortunately rare, rheumatic affection of the eye is deep scleritis. Here the circumcorneal congestion is more general, showing extensive bluish-red discoloration. It is a chronic disease and destructive to vision by the formation of deposits in the cornea, and staphyloma of the sclera. I showed a case of this type before the Chicago Ophthalmological Society last December. It was that of a young woman of 29, with a history of hip-joint disease at 3 years of age. Since that time her general health had always been good with the exception of rheumatic pains in the joints, always aggravated during changes in the weather. The family history was negative, and there were no evidences of syphilis, except the interstitial character of the corneal deposit. There was violent scleral congestion with triangular corneal opacities, which the magnified cornea showed to be quite vascular. This condition had existed over a year. A period of five weeks was the longest without a relapse. She was treated with potassium iodid, salicylates, salines, and mercury by inunction; locally with atropin, and hot applications and massage. The iris was slightly involved. In this case again leeches gave instant relief during the acute exacerbations.

I have selected these three cases because they represent, in the first two, the most common rheumatic eye disturbances, and the third the most serious in its consequences. Note particularly the history of many relapses; in all a positive rheumatic condition, in one also a family history of it. The case of iritis yielded best to treatment, but so far is not permanent. The two scleral cases are hardly influenced at all except by heat and local blood-letting.

OVULATION AND MENSTRUATION NOT INTERDEPENDENT FUNCTIONS.[*]

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From one of the most popular text-books[1] on midwifery in our medical colleges, I quote the following: "The intimate connection between ovulation and menstruation is now admitted by most physiologists, and it is held that the determining cause of the discharge is the periodic maturation of the Graafian follicles. . . . and when the ovaries are removed by operation, menstruation does not take place." One of our latest physiologies, also popular as a text-book[2] in our medical colleges, states the following: "Women do not menstruate when both ovaries have been removed by operation. Some instances have been recently recorded, indeed, of a sanguineous discharge, occurring periodically from the vagina after both ovaries have been removed for disease; and it has been inferred from this that menstruation is a function independent from the ovaries, but this evidence is not conclusive."

Most of us have been educated along the line of the ovula theory of menstruation, and probably most physicians to-day believe that ovulation and menstruation are one and the same thing, or at least duplicate features of a single function. Another view, claiming a respectable and growing minority, divides the thought of the medical profession, and these views are fairly set forth in Gould's "American Year-Book." In an article by Hirst and Dorland, we read: "The divergent views are, first, that ovulation occurs at each menstrual period, and that the two processes are due to the same active cause. The other view is, that ovulation and menstruation are independent of each other, and are due to independent stimuli, and are coincident only by accident."

Since the days of Alexander's "Philosophy of Menstruation," Hamburg, 1841, followed by Grafft, Berlin. 1842, revised and improved by Raciborski, "Habit of Menstruation," Paris, 1868, many others have duplicated their noble efforts, and a clearer and truer understanding and comprehension of the functions of ovulation and menstruation have been gradually introduced into medical thought and literature, so that now many physiologists and gynecologists are concurring in the theory that ovulation and menstruation are naturally coincident, usually concurrent, exceptionally, independent functions. Let us consider this subject from three different standpoints.

1. *Ovulation without Menstruation.*—In Kirke's Physiology,[2] we read: "Cases are known where ova have been discharged in amenorrheic women. It must, therefore, be admitted that menstruation is not dependent on the maturation and discharge of ova." This statement is in harmony with the frequent observations of many gynecologists. Frequently mothers consult their physicians in regard to their daughters, in age ranging from 14 to 18, well-developed girls, who are having regular periodic ovarian disturbances, as regular and complete, minus the menstrual flow, as their mothers did. Perhaps this does not prove that these ovarian disturbances were ovulation; yet had these symptoms been attended with the customary discharge, ovulation would have no longer been considered hypothetical. While we have in the young, substantial proof as to when the menstrual flow began, we have no substantial proof as to when ovulation began.

We have had many patients who have menstruated for years and suddenly became amenorrheic, yet monthly had their regular periodic ovarian disturbances, less the external manifestations, and afterward when the flow reappeared it was when they were having these periodic attacks, suggesting at least that the ovaries had been performing their functions, though the uterus had failed to respond with its associated function.

In the year 1881, a young lady came under my care, who at the age of 21 attended the National Centennial, at Philadelphia, and was menstruating at that time. She took cold; the catamenia ceased and she saw no more of it for five successive years, though she experienced for about a year her regular, periodic ovarian disturbances, until gradually they ceased with her failing health. During the fifth year and after about six months' treatment, she noticed the return of the regular ovulation symptoms, and after three or four months more the regular menstrual flow appeared.

During a recent visit to Florida I was consulted by a well-developed, hearty young lady of 18 years, who gave the following history of herself: "About five years ago I began to have bad feelings in my head, back and sides, reaching through the bowels, which I could not account for. They seemed to come on about every four weeks, lasting two or three days each time and seemed always the same. Latterly, these spells have seemed worse. When I have taken medicine for them it has done me no good, and I have become anxious about my health." Recognizing the usual symptoms of menstrual disturbance, I asked her if she thought these pains were connected with her menstruation. She replied: "I never menstruated, but feel as other girls tell me they feel when they are sick, and I would like to know why I do not menstruate." A day having been appointed, another physician and myself examined her, when we found a complete vaginal atresia. By manual exploration through the bladder and rectum we discovered a rudimentary uterus, but not a vestige of a vagina. The clitoris and majora were intact, but no evidence of hymen. All other parts were normal. Considering her health and womanly development, what did these regular periodic symptoms signify but ovulation? Another day was appointed, when Dr. Bishop, of Sandford, assisted, acompanied with a surgeon, and while the young lady was under the anesthesia, the flesh corresponding to the place and size of the natural hymen. and to the thickness of blotting-paper was dissected off in pursuit of a vagina, but no vagina was found. There were two little holes, bilateral, about three-fourths of an inch apart, disclosing two passages about the size of an ordinary knitting needle and extending upward about four inches; surrounding these the tissues were dense but healthy.

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"That ovulation may and does occur apart from menstruation," says Dr. Martin, in his physiology and histology, quoted from Hirst,[4] "seems to be proved by such cases as that of Oldham. In that instance the ovaries had descended into the labia majora, and every three or four weeks one or both swelled and became tender. The uterus and vagina were absent."

One of the most frequent and familiar symptoms to a gynecologist, is swelling and tenderness over the ovaries, discovered on digital examination from one to three days previous to the menstrual flow, and a like digital examination, showing less swelling and tenderness, some time before or soon after the flow has begun, indicating that the ovarian changes and constitutional disturbances may be independent of menstruation in these cases as in the cases above cited, where, in the young, the ovaries had matured faster than the uterus and had entered their functional mission before the uterus was ready to express, by the usual sanguineous discharge, its readiness to co-operate in this usually associated phenomenon. The same is true also in the other above-cited cases of amenorrhea where there were the usual ovarian symptoms present, but the menstrual flow absent.

When we consider ovulation in its simple and independent character, as exhibited in nature's scaly and feathered tribes, which is unattended with a menstrual flow, we are compelled to admit that ovulation in the mammiferous, though periodic, is as natural as in the fish or fowl; and the period is not dependent on the moon, or contact with a male, or on genitalia congestion, or on the menstrual flow, but on the nature of things. The period of ovulation being as natural as the interval, we are compelled to admit that ovulation is the primary and initial organic step in nature's progressive effort to procreate, and that ovulation, therefore, being primary, initial and independent, the uterine changes, blood discharge, venous congestion, heat, etc., usually concurrent phenomena, are necessarily only secondary: and while the uterine changes are secondary, usually they are intimately associated with ovarian changes, especially in the attainment of nature's purpose in an ultimate end of ovulation, namely, procreation. Yet in view of the many incontrovertible and incontestable facts reaching through many years of painstaking study and creditable observation in different parts of the land and in different lands, we are compelled to believe, that exceptionally, and by no means solitary, there may be ovulation and even conception without menstruation. Let us pursue this general subject from another standpoint.

2. *Menstruation without Ovulation.*—In the foregoing discussion we have cited numerous authors and clinical cases, showing that ovulation and menstruation are coincident, but not interdependent; that ovulation is the primary and initial step in nature's process of recreation, called menstruation, and that the menstrual flow is the secondary act in the same process, usually attendant, but exceptionally absent and may occur independent of ovulation.

A glance at the anatomy of the blood and nerve supply of the ovaries and uterus will aid us in the discussion of the functions. The arterial supply of the ovaries is from the ovarian branch of the aorta. The arteries of the uterus are the uterine and a branch from the ovarian. The uterine artery is a branch of the internal iliac, supplying the walls and viscera of the pelvis and generative organs except the ovaries, so that the blood-supply is quite out of proportion in the two organs, and is mainly from different sources. The nerve-supply to these organs is abundant and from the sympathetic system. The nerves of the ovaries are from the spermatic or ovarian plexus. The nerves of the uterus are from the inferior hypogastric, some from the ovarian, and from the third and fourth sacral nerves. The uterine nerves are not distributed through the ovaries, but to the uterus, vagina and bladder.

The blood and nerve supply being mainly from different sources, suggests the probability that there might be an ovarian activity without a corresponding uterine activity and vice versa; ovulation without menstruation or menstruation without ovulation.

The menstrual flow, beyond reasonable controversy, is produced from the mucous membrane lining the uterus, and is entirely independent of rupture of the Graafian follicles. Exactly how it is produced is still a mooted question. Some hold that it is a natural result of a periodic vascular congestion, throwing off the membranes and leaving the surface raw and bloody. Others say it is produced by exudation from open-mouthed blood-vessels, which terminate in the mucous membrane. Still others hold that it is produced by turgescence and vascular osmosis. Of still less value are the theories that the blood is produced by the presence of the ova in the uterus or by congestion of the Fallopian tubes; from ovarian activities and rupture of the Graafian follicles, or the theory of monthly, periodic uterine muscular contraction forcing the flow. But it is important in this anatomical reference to bear in mind that the blood and nerve supply are essentially from different sources.

Now let us return to the consideration of the menstrual function. Again, we quote from Kirke's "Physiology," "Though menstruation does not appear to depend on the discharge of the ova, yet the presence of ovaries seems necessary for the performance of the function." The statement that menstruation does not appear to depend on the discharge of the ova, appears to us more in accord with clinical observation than either theories, namely, of Bischoff and Pflugar, on the one hand, that "ovulation and menstruation are due to the same active cause, the one being the starting-point of the other," [5] and the theory of the extreme party, on the other hand, represented by Biegel, quoted by Professor Schroeder,[6] of Bavaria, that "ovulation and menstruation are completely independent of one another, and that the discharge of the ovum may take place at any time whatever, even in children, but that menstruation is nothing but the periodical returning demand of the female genital organs for sexual gratification." Professor Schroeder's own views are more in accord with recent developments, namely, "That it is clear, that the two phenomena have no necessary and absolute connection, and that the occurrence of one without the other is quite conceivable."

In physiological menopause does ovulation or the menstrual flow cease first? Do they cease together? Do the irregularities of the menstrual flow, or the frequent and prolonged hemorrhages during the change have to do with ovulation? Physicians see many cases where menstruation continues long after the age of child-bearing, and, we conclude, long after the age of ovulation. I had a patient who menstruated once in about three months at the age of 73. I have the assurance of one who menstruated regularly between 75 and 80; but we hear of no pregnancies so late in life. However, Sarah, Mrs. Abraham, bore her husband a son at the age of 100, and why not, if ovulation continues, other things being equal?

Painstaking observation of surgical cases for the last twenty years seems to prove conclusively that menstruation has continued periodically and regularly after both ovaries have been removed. This is corroborated by the majority of the latest works on surgery and gynecology, though denied by such men as Dorant, Baker, and Dormer Harris,[2] who say: "Some instances have been recently recorded, indeed, of a sanguineous discharge, occurring periodically from the vagina after both ovaries have been previously removed by disease; and it has been inferred from this that menstruation is a function independent of the ovary; but this evidence is not conclusive. A lady came under my care, who some months previous had a double oophorectomy performed; she told me that her menstrual periods had been as regular after as before the operation. Another young lady had a like operation and after three months began to menstruate regularly and continued for three years, when hysterectomy was performed. I attended her in both operations. Gill Wylie[5] reports Lawson Tait as saying: "Women sometimes menstruate regularly when both tubes and both ovaries have been removed. I know of one who has missed not more than two menstruations in two years and a half, although I have both of her tubes and ovaries in a jar." I have, at present, one under my care who, two years ago, had both ovaries removed and has menstruated as regularly since as before.

Again, in considering the independent action of the functions of ovulation and menstruation, let us look at it from still another standpoint.

3. *Conception without Menstruation.*—If there be truth in the subject of this paper, namely, that the two named functions of generation in the female are not interdependent; if anatomy and physiology have so provided; and if surgery, clinical history and painstaking observations sustain this truth, then we can conceive of the possibility of even conception without menstruation, which, if it should occur, would prove an independence of the functions of the ovaries and uterus.

Dr. Jaggard[7] says: "Pregnancy may occur in the absence of menstruation." He further says: "There are also authentic cases on record of pregnancy after the climacteric." I attended a gray-haired lady in confinement at the age of 50 and past, who supposed she had passed the change of life long before. Dr. Hodge[7] cites a case coming under his own observation of a woman who became pregnant seven months after the last appearance of menstruation.

Several cases have occurred in my practice of women becoming pregnant during lactation and before the reappearance of the menses. A young girl may become pregnant before she menstruates. "The Hindoos[11] have a custom that their girls shall be obliged to marry before the establishment of the menses, because even menstruation occurring in a girl who has not had the opportunity to conceive is regarded as infanticide." [8] Medical missionaries are conversant with this phenomena in tropical countries where girls often marry before the age of 10 and sometimes children are born before their teens. Kussmaul reports a case of one who became pregnant at the age of 8 and bore a child nine months later.[9] Fox,[10] of Philadelphia, speaks of attending a girl in confinement at the age of 11 years and 4 months. The Mohammedans in Syria and Asia Minor, among whom I lived for several years, often marry their daughters before the catamenia and it was often said that a child was born before the menstruation. Menstruation is seen, therefore, to be no integral part of ovulation, nor an absolute factor of conception, though usually concurrent and attendant.

There may be ovulation without menstruation; menstruation without ovulation; and conception without menstruation.

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DYSMENORRHEA.*

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That group of phenomena comprehended under the term dysmenorrhea is as interesting as it is common in the experience of every practitioner of medicine, nor is the interest lessened by the reflection that on the successful management of the case in which such symptoms occur, often depends the reputation of the physician concerned, among a large number of patrons. That the problem is frequently a difficult one will hardly be gainsaid. It can not, therefore, be time misspent if we devote the few minutes at our disposal to the study of the etiology and rational treatment of the abnormal conditions underlying these morbid manifestations. Recent investigations have thrown light on the innervation of the ovary and the uterus, respectively, which greatly facilitate our understanding of the symptoms, especially in organs remote from the genital sphere. The nerves of the ovary originate from the plexus renalis and lower section of the plexus aorticus seu spermaticus, and belong almost entirely to the sympathetic system. They obtain, however, spinal filaments by means of communicating branches of the nervus spermaticus externus, which owes its origin to a branch of the nervus genitofemoralis originating from the plexus lumbalis; it joins the plexus spermaticus.

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According to the researches of Otto V. Herff,[1] there exists in the ovarian stroma a very dense nervous plexus which is mainly designed to supply all vessels, including those of the follicles. Nerves also attain to the follicular epithelium, lying on the smallest follicles, but sending filaments into the largest ones, which radiate into the membrana granulosa and end here. Moreover, here and there filaments attain to the germinal epithelium as well as to the muscular cells in the hilus and to the inner vascular layer. Devos[2] finds that the plexus surrounding the follicles has no connection with the vascular nerves. He considers, therefore, the follicular nerves as centripetal and believes that their stimulation has influence on the entire nervous network of the utero-vaginal domain. The result of the studies of Winterhalter are embraced in the two propositions: 1. The ovarian vessels are surrounded with perivascular plexuses. 2. In the zona vasculosa lies a ganglion consisting of cells of the character of the sympathetic ganglion-cells, and its processes surround the vessels for the greater part in numerous convolutions.

Bearing in mind that the physiologic function of the ganglion-cells is to preserve and accumulate stimuli coming to them for a considerable time, and to discharge these stimuli directly or indirectly through the intervention of other cells as soon as the stimulative height has overstepped a certain limit, we are logically forced to the assumption that menstruation is a reflex process starting from the ovaries.

In the language of Maericke, "the excitations which the Graafian follicle exerts on the nerves surrounding it, partly by its growth, partly by the chemical processes occurring in it at the time of sexual maturity, are deposited and accumulated through the instrumentality of these nerves in the spinal marrow or in the ganglia of Frankenhauser and Winterhalter; perhaps in others also.

"When the stimuli have thus attained a certain height a discharge follows in the form of a powerful congestion of the blood in the genitalia."

The nerves of the uterus are derived in part from the plexus hypogastricus and in part from the sacral nerves. The hypogastric plexus lies on each side, immediately on the promontory about 3 centimeters beneath the bifurcation of the aorta, and forms a combination of the plexus spermaticus and renalis. From the two last-named plexuses fibers go upward to the celiac plexus. The most important roots of the plexus coeliacus are the nervi splanchni and the abdominal branches of the pneumogastric—chiefly the right. It also receives contributions from the phrenic nerves. Herlitzka, in his valuable contribution to the study of innervation of the uterus, says: "In the tissue of the uterus we find, besides the plexus belonging to the vessels, two other nervous elements entirely different from one another in structure and derivation. 1. A network consisting of ramified cells whose processes anastomose with one another in a manifold manner. It stands in communication with strong bundles consisting of pale fibers of Remak. These elements probably are derived from the sympathetic system. These cells are not to be considered as ganglion-cells; it may rather be assumed that to them belongs simply the conduction of the nervous excitations. 2. Some myelin-containing fibers which exhibit the same properties as all nerves derived from the cerebrospinal axis. These fibers end with extensive ramifications of a characteristic appearance, and are distributed over wide zones of uterine tissue without, however, entering into communication with the elements of the proper network or with the fiber-cells of the muscles."

These anatomical descriptions plainly show the source and extent of the distribution of the cerebrospinal and sympathetic nerves to the pelvic organs, at the same time demonstrating the communication between them. Another anatomical feature must be kept in view, namely, that in the sympathetic paths, vasomotory, motory, secretory and sensory fibers run; and such cerebral nerves as the pneumogastric and trifacial maintain communication with sympathetic ganglia. We shall not be at a loss, therefore, to explain the various morbid phenomena of dysmenorrhea, however incomprehensible they may appear to the student of medicine who ignores anatomical research.

Women who enjoy excellent health at the time of menstruation feel a change in their physical condition, as the very term they use denotes—they are "unwell." Independently of an increased susceptibility of the nervous system to external impressions, they may complain of certain local annoyances, as heaviness, or fulness in the region of the pelvis, a sensation of pulling in the sacrum, a frequent desire to void urine, etc. Dr. Emmet thus expresses it: "Every woman, even in health, will experience some degree of discomfort at the menstrual period. That she should be absolutely free from pain and suffer no inconvenience at the time is an abnormal condition." I can hardly follow the eminent gynecologist here and accept these views without qualification. That, as a rule, healthy women have more or less discomfort when they menstruate is true, but it is equally true that we by no means infrequently meet such women who say that menstruation takes place absolutely without pain. If women in good health, therefore, complain of discomfort in menstruation, it need not excite surprise if women affected with the various pathologic conditions underlying dysmenorrhea present many and varied phenomena. In most cases the complaints begin long before the appearance of the period, and reach their highest point in intensity during it, then die away slowly and by degrees. Sometimes the pains come on shortly before the menstrual flow, and promptly cease when this begins. Others have the pains only during the flow, still others, before and during the period. Some have only a dull burning or gnawing sensation in the pelvis; in the case of others the pains radiate in a wide circle, and are perceived at distant parts of the back. In some the pain is more or less continuous, while in others exacerbations alternate with remissions. In many the pains are perceived and described as plain uterine contractions. To these symptoms are often added great irritability of the bladder; the patient has an urgent desire to pass urine every few minutes, and the results of her efforts in this direction are only a few drops. Disturbances of the digestive tract are frequently present; constipation alternates with diarrhea, the latter symptom being the more common. Heartburn, nausea and vomiting are as frequent as they are annoying. Attacks of severe hemicrania, which may be present for days, give the patient no rest. Cardiac palpitations, cold sweats, and attacks of syncope are manifestations evoked from the circulatory system. If no help comes, her condition may steadily and progressively depreciate. The pains become constant; the fear of the next menstruation, which hangs like the sword of Damocles over the unfortunate woman, the exhaustion that ensues from the pain during the period, the inability to enjoy life and perform properly its duties, and the disappointment at the failure of conception induce sooner or later a state of invalidism distressing beyond description. The exasperating character of the pains and the attendant depression of spirits often impel the unhappy sufferer to call to her aid a force as potent as it is destructive, in the end, to mind and body. She becomes addicted to the use of narcotics, especially morphin; it is certainly correct that dysmenorrhea furnishes a large quota to the contingent of morphin habitués.

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[1] Zeitschrift f. Geb. u. Gyn., Bd. xxiv, Hft. 2.

[2] Jahresberichte von Frommeil, 1891.

With reference to the causes of dysmenorrhea, most modern writers refer the phenomena in question to diseases of the uterus, the tubes, the ovaries, the peritoneal covering of these organs as well as the pelvic connective tissue. In the preponderating majority of cases the morbid affections which are the etiologic factors are inflammatory processes. Hence the classification: 1. causes originating in the uterus, and 2, causes which are extrauterine. This extension of the term dysmenorrhea so as to make it include all the painful symptoms evoked by inflammatory affections of the adnexa and their serous investments is a great mistake, an egregious blunder, and leads to confusion of thought.

Inflammatory affections of these organs, in consequence of the fluxion of menstruation, do at times undergo changes for the worst, but on the other hand I have been repeatedly struck by the fact that the symptoms improved decidedly during the flow. Moreover, in tubal or ovarian disease the dysmenorrhea is a mere incident and not the all-important determining factor in the clinical picture. The proper type of dysmenorrhea is the retention, mechanically, of menstrual blood, as it is observed in its most pronounced form, in cases of occlusion of the genital tract consequent on arrest of development. Similarly its symptoms are manifested, although not so clearly or unequivocally in all forms of narrowing of the cervical canal as in stenosis of the external os, flexion consequent on pathological anteflexion, flexion occurring in retroflexion, and in the narrowing caused by tumors, especially myomata. It is impossible to state in general terms how excessive the narrowing must be in order to cause retention of the uterine contents. Whilst coagula or shreds of the uterine mucous membrane are able to pass through a quite wide cervix only with difficulty, on the other hand, fluid blood makes its way through a very narrow cervix with comparative ease. But this is only true when the blood is secreted by the uterine mucosa slowly. In these cases there is always a mechanical distention of the uterine cavity, to which the muscular tissues of the body respond with contractions causing labor-like pains or uterine colic. The pains are paroxysmal and at times attain a high degree of intensity. When the flow becomes free they may intermit, but in other cases they persist during the entire time of menstruation.

The great apostle of the mechanical explanation of dysmenorrhea was that rare genius to whose labors gynecological surgery owes an unpayable debt, J. Marion Sims. It has been attacked, it is true, by most modern writers, one of the ablest being Heinrich Fritsch, for whose learning and sagacity I have the highest admiration, but notwithstanding I believe it rests, in the main, on impregnable ground. Fritsch says: "The mechanical explanation of dysmenorrhea played a great rôle with Marion Sims. It was said that the inner os uteri was partly actually narrowed as a complication, and partly was contracted owing to the fact that the uterus was flexed in this place. If blood was now effused into the uterus it could not escape, consequently uterine contraction originated, and this constituted dysmenorrhea. . . . Against this view speaks the following: 1. The pains have not the plain character of labor-like pain, are not at all limited to the uterus, but are felt in the entire hypogastrium and in the thighs. 2. It is proved by sounding that the pains are frequently present before a drop of blood is found in the uterus. The pains by no means disappear when the blood has free egress; nay, just in the worst cases so little blood is secreted that it can by no possibility stimulate the uterus to contractions. 3. The fluid blood is not to be identified with a firm foreign body stimulating the contractions. Coagula just in these cases are never found. The uterus does not react by dysmenorrheal pains even on the formation of polypi, on the sound, on accumulations of mucus, on intrauterine treatment. 4. The menstruation in the same patient is at times painful, and with appropriate therapeutical measures quite free from pain. Menstruation in a wide uterus may be very painful when it is inflamed or lies in a bad position. 5. Quite the same condition is observed in a quite normally formed uterus. The pains in uncomplicated cases are to be explained in the following way: We know that the mucous membrane swells very considerably in menstruation and that the uterus also becomes larger. The resistance of the uterus to this thickening of the mucous membrane and the dilatation of the bloodvessels produce contraction and pain. Dysmenorrhea is frequent, therefore, in a badly developed, small nulliparous uterus, but is wanting in the healthy, yielding uterus of a multipara whose vessels and cavity are wide. A strongly flexed uterus will oppose greater difficulties to the thickening of the mucous membrane and the uniform distention than a completely normal one. It must be borne in mind, in addition, that the swelling mucous membrane, in menstruation, forces the mucus out of the uterus and almost always some discharge precedes the menstruation. If this mucus cannot escape on account of stenosis of the os uteri, or on account of strong anteflexion, or on account of polypus, also if the blood is retained, the mucous membrane is prevented from swelling. The use of the sound will help here. This view has much affinity with the assumption of Sims, for which the success of the operative measures plainly speaks. After a birth the dysmenorrhea ceases as a rule, because the vessels and the muscular tissue likewise remain dilated."

This admission on the part of Fritsch is all that the advocate for the mechanical view could wish, and at the same time shows that with the eminent gynecologist love of truth weighs more than the reputation for dialectic skill. Küstner insists that the exclusive mechanical view of dysmenorrhea must be allowed to drop, but at the same time admits that we can moderate or heal the dysmenorrhea if the contractions of the uterus are removed or limited in some degree by eliminating their cause; that is to say, if so easy a way of escape is made for the uterine contents that contractions are not called forth, or at any rate to only a limited degree. He also finds the underlying cause of the phenomena in inflammatory conditions of the uterus and the adnexa and their peritoneal investment. August Martin believes that one of the most frequent[3] complaints of women, the subject of salpingitis, refers to dysmenorrhea; at the same time he expressly states that the pains are increased during menstruation in some cases, while in other cases they undergo amelioration. He further states that in reference to the dysmenorrhea in salpingitis it must remain questionable what share the uterus and what the peritoneum has in the pains, "even if the pains are decidedly localized in the tubes." We thus see what a confused, hazy clinical picture we obtain of dysmenorrhea if we bring under its definition all the inflammatory affections of the pelvis, while on the contrary it is clear and intelligible in all its details if we regard it as a neurosis originating when the uterus finding an obstacle to the evacuation of its contents, responds by spasmodic contraction of its muscles. All other pains, whether occurring during menstruation or at other times, and proceeding from endometritis, metritis, perimetritis, oophoritis or salpingitis, are absolutely excluded from a proper conception of dysmenorrhea.

I by no means wish to deny, however, that dysmenorrhea in its full type, if allowed to persist unchecked, will undoubtedly cause oophoritis and endometritis. A peculiar form of dysmenorrhea, called intermenstrual pain, has lately attracted much attention. Halliday Croom devotes considerable space to its discussion in his article in Allbutt's "Practice of Medicine." It is a misnomer to speak of it as dysmenorrhea, and I agree with Fritsch in regarding it as a symptom of endometritis. A form of dysmenorrhea, which is of special interest to the general practitioner, is the pain accompanying menstruation in young girls soon after the establishment of this function. In these cases the explanation will usually be found in the fact that the uterus is backward in its development and consequently is unable to meet the demands made on it by the menstrual process. The blood-vessels especially possess too slight a caliber and are inadequate to the menstrual fluxion. The mucous membrane is thus not able to swell properly and perform its functions. The abnormal increase of pressure in the uterine vessels, which is normally relieved by a free flow of blood, evokes now, reflex contractions of the uterus, which are increased from the fact that the uterus, in consequence of the smallness of its cavity, is unable to hold the secreted blood. It is not to be denied that there are cases of severe dysmenorrhea in which the source of the disease must be sought, not in the uterus, but in the general system, especially the nervous system. The subjects of this type are neurasthenic or hysterical. They are, as a rule, badly nourished, anemic, chlorotic individuals, with a hereditary tendency to nervous and psychical disturbance.

Dr. William Fliess, of Berlin, has called attention to a peculiar form of dysmenorrhea which he designates by the term nasal form of dysmenorrhea. According to this author, there are certain points in the nose called by him "genital places," particularly the inferior turbinate bones and the tubercular septi, which undergo changes during menstruation, under certain conditions in consequence of which dysmenorrhea is evoked as a reflex phenomenon. The application of cocain to this part of the nasal mucous membrane will alleviate the dysmenorrhea, while cauterization will effect a permanent cure.

The relation between the nose and the sexual organs deserves more attention than it has heretofore received, but meanwhile it must remain a subject for further investigation.

That form of dysmenorrhea called forth by an endometric exfoliation presents a group of symptoms which may be considered as a pure type of dysmenorrhea. The symptoms are necessarily more pronounced than in ordinary cases, especially the rhythmical contractions, since a stronger force is requisite for the passage of a solid membrane than for the expulsion of fluid blood. Recognizing the fact that the dysmenorrhea is a neurosis and that the characteristic pain is to be referred to spasmodic contractions of the uterine muscular tissue, which manifest themselves when the menstrual blood effused into the cavity finds an obstacle to its discharge through a narrow or flexal canal, the indications of treatment are obvious. In the uncomplicated dysmenorrhea of young girls a vaginal examination is unnecessary. The general health should be promoted by tonics, proper exercise, attention to the state of the bowels, and to act on the uterus, the fluid extract of hydrastis—a teaspoonful three times daily—should be exhibited during the free interval. If the pain persists it may be necessary to resort to the use of a suppository containing aqueous extract of opium or morphin, and thus the patient may be permanently relieved. I need scarce remind you that a frequent recourse to the use of opium is manifestly contraindicated. Antipyrin has shown in my hands wonderful power in relieving the pain of dysmenorrhea. It may be exhibited by the mouth or hypodermically. It should be borne in mind, however, that it is very depressing in its action on the heart, and its effects must be carefully watched. Of all the coal-tar derivatives, phenalgin in 5-grain doses once every hour or two until the pains cease, has rendered me the greatest satisfaction. Apiol exhibited twice daily for some days previous to menstruation is a valuable acquisition to the remedies.

If these simpler measures prove inefficient, it will be necessary to resort to local treatment. In cases of hypoplagia or pathological anteflexion, cure may be effected by recourse to a gradual dilatation by Hegar's dilators, or, as I prefer, by steel sounds. McGinnis praises highly the use of electric treatment. In chlorosis and nervous phenomena he applies one electrode on the abdomen the other in the lumbar region. In cases of "pure uterine dysmenorrhea," he applies the positive pole in the cavity of the uterus.

If in spite of these local measures the dysmenorrhea recurs, an excellent method is to dilate with laminaria tents. I agree entirely in the view expressed by Fritsch that by this gradual dilatation better results can be obtained than by the use of forcible dilatation at one sitting. A small tent, properly bent and aseptic, is first introduced, the patient being in Sim's position and the uterus fixed by a bullet forceps, and allowed to remain twenty-four hours. Iodoform gauze is placed against the os uteri and the vagina packed. A second is similarly introduced and allowed to stay twenty-four hours, and so on until the cavity is sufficiently large to admit the finger. The uterine cavity is then packed tightly with iodoform gauze and this is kept intact for two days. If this treatment is conducted according to strict principles of asepsis and antisepsis, no infection may be feared. As Fritsch correctly observes, "the next menstruation may be still painful in consequence of irritation of the nerves, but afterward menstruation occurs without pain."

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[3] Die Krankheiten der Eileiter, Leipzig, 1895.

I have heard gynecologists declare that they never make use of tents, that such methods are antiquated; but in this class of cases the laminaria tent unfolds a power that can be equaled by no other known plan of treatment. In cases complicated by chronic endometritis and in those in which a myoma is situated in the uterine wall I make use by preference of the dilator of Pryor, which possesses many advantages over the ordinary dilators, for the purpose of thorough dilatation. The uterus is then curetted with the Sims sharp curette and tightly packed with strips of iodoform gauze. In this way the dysmenorrhea is cured with the endometritis.

For the membranous form I use the same method of treatment with decided benefit. Fritsch recommends the prolonged use of uterine irrigations of lysol, 1 to 100, after thorough dilatation, and this method is well worthy of adoption. Finally, it should be mentioned that oophorectomy has been recommended as a last resort in cases of persistent and obstinate dysmenorrhea. Against this practice I must make my decided protest; in the first place we have no certain guarantee that the patient's condition will be better after the operation than before, and secondly with the less radical means at our command I am absolutely sure that we can attain the desired goal by persistence, patience, and wise discrimination.

TREATMENT OF MENORRHALGIA OF PELVIC ORIGIN BY ELECTRICITY.*

G. BETTON MASSEY, M.D.
PHILADELPHIA.

What are we to do for the relief of our young women patients who suffer persistently from menstrual pain and spasm? I allude to those cases which have resisted all approved drug medication, including alimentary correctives and eliminants, as well as antispasmodics, and whose life is clouded during one-fourth of each month by an ever-increasing degree of morphia stupefaction as the only relief from intense pain.

The pathology of cases of this nature is usually of a dual character. There is commonly a chronic inflammatory process present in the endometrium, accompanied by congestive conditions in the ovary, the endometritis being merely catarrhal, and there is also a most pronounced erethism of the pelvic neuromuscular apparatus. This neuromuscular erethism is the feature wherein these cases differ so greatly from those of mere endometritis in parous women, unaccompanied by the menorrhalgic spasms. The pain and spasm are probably present in the younger women because of developmental imperfection, the result being very much like a tic-douloureux due to a bad tooth. Should pregnancy occur a spontaneous cure is probable, not because the cervical cavity is then larger, as incorrectly supposed by some, but because a full development of the organs has been produced by the remarkable trophic accompaniments of the gravid state.

The idea that dysmenorrhea is due to obstruction of the menstrual flow has been shown to be a delusion. No accumulation is ever found in these cases. The steel dilators that are still improperly employed in a treatment based on this obsolete theory themselves disprove the presence of obstruction, for a canal that will admit them in their closed state is far larger than necessary as a hydraulic drain for the menstrual fluid. If the purpose in view, in the use of these instruments for forced dilatation under ether, is not the *permanent* enlargement of the canal, but the mere divulsion of the spasmodic stricture, it follows that the method should be employed only during the actual spasm of the period, and should be repeated at each period, conditions never present in these operations as advised in the books.

The truth is, that this formidable operation, the forcible dilatation of the cervical canal by steel dilators, oftener does harm than good; the cases temporarily relieved rarely experiencing comfort more than during one period, and this probably owing to an amelioration of the endometritis. The harm at times done by the operation is, on the other hand, an actual aggravation of the subacute catarrhal condition, ending, in some instances, in an ascending catarrh of the tubes and ovaries.

Too often the final history of a case which has been placed under forcible dilatation, is abdominal section for removal of inflamed ovaries. This result may at times be merely in spite of the treatment, which failed to cure the case in its first stages; but in other cases I have the unquestionable testimony of patients and their physicians that what had been merely menstrual pain in the uterus and back before dilatation, was changed to constant pain in the ovarian regions after dilatation, and this without relief from the menstrual pains.

There are at present a large number of physicians in this country who agree with me that in electricity we have a most valuable remedy for the permanent cure of persistent menorrhalgia, even of the most severe forms. Unfortunately, little is written at present from this point of view, and the unopposed views of the wisdom of dilatation remain uncontradicted. The method may be carried out in office practice, is free from risk to already congested appendages, and may be relied on to cure when conjoined with intelligent regulation of the general health and habits of the patient.

I have given the exact technique elsewhere, but may say that it consists of judicious blending of vagino-abdominal applications of the positive pole of the galvanic current with similar intrauterine applications of the same current. The intrauterine applications must not be used, however, until the congestive condition of the appendages is relieved, after which the local effect of mild mercuric cataphoresis within the cavity will quickly remove the endometritis, which, having its inception in "catching cold" during a period, is the initial lesion of the affection.

It will be noticed that I recommend that the positive pole of the galvanic current be used and not the negative. This choice is deliberately made as the result of large experience, and shows that electricity does not owe its value in these cases to a dilating effect, as some think, this effect being greatest at the negative pole, but rather to the cure of the endometritis. If there is no endometritis I do not pass the electrode within the uterus at all, but apply the internal electrode within the vagina alone.

I would urge an intelligent use of electricity in this condition on the part of all physicians engaged in general office practice. Expertness is readily gained by those equipped with sufficient gynecological and electrical training, and though the actual work will require some time and trouble, the result can not be other than pleasing when it keeps the patient at home, makes her a well woman, and robs an operating-room of another sexless product.

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DISCUSSION ON PAPERS OF DRS. THAYER, HARRISON AND MASSEY.

Dr. E. G. Zinke, Cincinnati, Ohio—This is a subject with which we are all more or less familiar, but we all differ as to the proper treatment of the various cases. I have listened very attentively, and I must say that I have heard nothing especially new. So, too, the criticism I may make is not particularly new. I have ceased to use electricity for fully eight years in the treatment of gynecologic cases. I have purchased hundreds of dollars worth of apparatus for this work, but have derived absolutely no benefit from it, especially in the treatment of dysmenorrhea. I am free to admit that in some of these cases I did not, in all probability, determine the real cause of the trouble. When a case of dysmenorrhea presents itself to me now, I make every effort to determine the cause. Those cases which are amenable to treatment at all can be cured without the use of electricity. The most difficult are those in unmarried women, especially when under 18 years of age; in these it is exceedingly difficult to determine the nature of the trouble unless an examination is made, and this is not always advisable or possible. We might treat the patient from a neurotic standpoint, but we should not waste too much time. After temporizing for awhile and failing to relieve the patient, I invariably insist on examination under the influence of an anesthetic. If we can exclude want of development of the generative organs not much can be accomplished by electricity. We should pay attention to the general health of the patient, proper diet, daily action of the bowels, outdoor exercise, change of climate and good habits, especially in girls who go to school or who work in ill-ventilated tailor shops, where they are obliged to sit for eight or ten hours in a cramped, unnatural position, breathing bad air. When we find a want of development or diseased conditions, we must give them the proper treatment, and I am sure that in cases of endometritis, metritis, salpingitis or oöphoritis the least beneficial treatment is electricity. I have absolutely no use for it in my practice.

Dr. Maximilian Herzog, Chicago—I wish to put myself on record as against the view that menstruation and ovulation are absolutely independent of each other. Truly, it is a fact that ovulation occurs without menstruation. It is also true that we have hemorrhages from the uterus, which are menstrual in character, without ovulation, but the exception only proves the rule. It was formerly claimed that *in menstruation the major* part of the uterine mucosa is shed. This view was derived from the examination of post-mortem material, which is unfit for studies of this kind. We must examine menstruating uteri obtained from the living if we wish to make correct observations. I am in a position to confirm the statements of Mandel and others that there is little of the uterine mucosa shed in menstruation, and that little consists only of some of the superficial epithelial cells. I have made this observation repeatedly on menstruating uteri obtained *per operationem* from the living. The changes which do occur in menstruation are the following: The capillaries of the intertubular connective tissue are enormously dilated and there is an extravasation of blood into the connective tissue. Some of the blood makes its exit toward the surface, and some of the surface epithelia are lifted away from their basement membrane and shed. Those are all the changes we find in a normal menstruating uterus. The object of this change is to prepare the soil for an impregnated ovum. It has recently been shown by Peters and others, that the human ovum, like that of lower animals, when it first begins to develop in the uterus, is surrounded by a solid layer of ectoblast with phagocytic properties. The changes occurring in menstruation are for the purpose of allowing the *implantation* of the ovum. The changes in the uterus in menstruation serve a specific purpose, viz., to prepare the soil for *an impregnated* ovum, and they therefore do stand in a certain *relation to* ovulation.

Regarding dysmenorrhea, our knowledge of the pathology of this condition is a very hazy one. Our classification of dysmenorrhea is incorrect. Obstruction to the menstrual flow plays a very insignificant rôle in the causation of dysmenorrhea. There are practically only two types of dysmenorrhea. One which is dependent on inflammatory changes in the uterine mucosa and the other dependent on inflammatory changes in the ovary. The inflammatory changes of the uterine mucosa are of the type of an endometritis interstitialis. In cases where the membrane is shed the uterine mucosa undergoes a change much like that in normal menstruation, except that the limit is overstepped and we have the formation of tissue very much resembling a young decidua. Several interesting papers on certain forms of oöphoritis characterized by changes in the vessel walls have recently been published. In these forms of oöphoritis we find processes of endarteritis obliterans and hyaline changes in vessel walls. We know little of the cause or causes of most cases of oöphoritis.

Some time ago I studied the histopathology of syphilis, and I have *been able to confirm the work of* Rieder, who found that the vessel changes in *syphilis are mostly found* in the veins and lymphatics *and not in the arteries*. I have examined a number from cases of dysmenorrhea, and found conditions very much resembling those found in syphilis. It occurred to me that it is possible that there are certain cases of oöphoritis which are of syphilitic origin. There is, however, nothing definite known as yet about this point, but I think it *would* be worth while if the gynecologist would keep in *mind* that certain forms of oöphoritis are probably *due to congenital* or *acquired syphilis*. In such cases mercury and the iodids would *probably be of greater service* than the knife.

Dr. George J. Engelman, *Boston*—I have always been very much *interested in this subject since* my study of the menstrual *changes in the uterine* mucosa, in 1870, and am at present *engaged* in an investigation of the menstrual condition among school and college girls; it has brought to my attention the various forms of dysmenorrhea common among young women in supposedly good health. Dr. Harrison mentioned two forms: one an acute inflammation of the uterine tissue and the other of the appendages. The majority, certainly many, of the cases of dysmenorrhea I observe among school girls are due to nervous influences. I have gone over nearly 5000 cases of menstruation in so-called "well women," girls in educational institutions, neither hospital nor private patients, and find from 42 to 83 per cent., perhaps an average of 66 per cent., afflicted with more or less menstrual suffering. The pain is increased with hours or intensity of study, with worry or emotion, and is diminished or ceases during vacation time without treatment of any kind. These are *nervous menstrual* pains, which are augmented by *physical exertion* and mental application and strain. I believe that the mental or nervous element is a more prominent factor than we usually take it to be, and clearly demonstrates the necessity for a general management of these cases. The character of the pain does not necessarily differ from that which accompanies inflammatory conditions, and how the diagnosis is to be made I do not know, except by examination and study of the individual case, but let us by all means, in the young girl, first attempt the general management, the relief of all abnormal and *injurious* conditions of worry or debility, of mental or physical prostration. As a large majority of these cases are unquestionably due to nervous disturbances, much can be done without local interference. Electricity I have used much and successfully for the relief of menstrual suffering and in the management of pelvic disease, and am sorry to see the contempt with which this really valuable agent is referred to by many and the superficial way in which it is disposed of. I know that many able observers say precisely what Dr. Zinke does. I differ with him, as my own experience is decidedly at variance with his. I like the effect of electricity, but would not rely on its use alone *and unaided* as a means of treatment. It is a valuable and effective agent, but must be used at the proper time, and in suitable cases, precisely as any other remedy or drug. I have found electricity an admirable remedy for *the relief* of pain in cases of inoperable tumors, or when an operation is not desired, in neurotic and neurasthenic cases, in cases where stimulation is needed in debility, local or general, and where thickening of tissue exists, with a want of absorption. Electricity can be applied by a cotton-covered electrode in the vagina as the active pole, and the other over the abdomen, using mild currents. A very satisfactory method in dysmenorrhea due to flexion, narrowing of the canal or chronic inflammation is to use the dilator as an electrode. The dilator is connected with one pole, the abdominal electrode with the other, and the blades gently separated during the séance. In this way the electrode is brought in contact with the tissue, and dilatation is much more easily accomplished with than without the current. It has a relaxing effect and this overcomes the pain of dysmenorrhea. A few applications a month are enough, but most effective is one immediately before the appearance of the flow. The treatment is one requiring time and careful manipulation, with some knowledge of currents and instruments, but it has its good points and I am sorry that men of authority like Dr. Zinke express themselves as he does, as others will be guided by their very positive statements so unfavorable to this agent, which is truly valuable in its proper place, and unjustly abused because enthusiasts have claimed too much for it.

Dr. C. L. Bonifield, Cincinnati, Ohio—Dr. Massey, in his remarks, said, much to my surprise, that those patients where we have a large accumulation of fluid in the uterus suffer no pain. I have seen a number of such following amputation of the cervix, this growing together and the obstruction being absolute or nearly so. They also follow curettement, where proper precautions are not taken to keep the os patulous. It has been my experience that such patients suffer the most intense pain at the menstrual period.

Dr. Herzog's observation that the mucous membrane of the uterus is not thrown off at the menstrual epoch, is the very latest view of German observers on this subject. The pain these patients have may not be due to the difficulty the fluid has in escaping from the uterus, but the difficulty it has in escaping from under the mucous membrane. A fact I have observed, and which speaks for an accumulation of fluid, is that if one of those girls suffering from dysmenorrhea for years, a girl who begins with an undeveloped uterus, be examined under an anesthetic, almost invariably the body of the uterus will be found dilated and pear-shaped. The walls of the uterus are not in contact as they ordinarily are, and one can direct the curette freely within the cavity. Whether this is from an accumulation of secretions or an hypertrophy of the organ I am not prepared to say.

As to electricity, I am willing to grant that Dr. Massey gets the result he claims, and other men who will take the time to learn his methods will get the same good results. I can obtain as good results in other ways that are less objectionable and not so difficult and objectionable. Dysmenorrhea is a disease of the unmarried, and such patients do not like to come to your office to be treated for weeks and months. It is best to dilate the uterine cervix, pack the uterus as firmly as possible with gauze, and thus produce a miniature labor, which will do more good than months of electric treatment.

Dr. F. F. Lawrence, Columbus, Ohio—Some three years ago I wrote a paper on this subject and emphasized the important fact that painful menstruation is not a disease but simply a symptom, and that we should begin the treatment as soon as possible. The conditions giving rise to it must be treated as such, and the symptom of painful menstruation will rapidly disappear with the disappearance of the conditions treated. We might as well talk of leucorrhea as a disease as of dysmenorrhea. I am pleased to note that the doctor makes practically the same statement that I have made in my paper, and that is that obstructive dysmenorrhea has not only been shown to be a mistake, but is something we do not find. The conditions causing the pain may be classified as of uterine, intrauterine, ovarian, tubal, local or general origin, and we must fight the condition itself and treat that condition, and not treat a symptom.

Electricity may be, as Dr. Massey said, of some value: he is competent and we will take his word for it. Is it by its tonic effect, by increasing tissue metamorphosis, or what? Cases of small cervix are usually undeveloped ones. On examination of these—they are usually in young girls—we may find ovaries so small that we can barely tell that they are ovaries. The uterus is completely undeveloped, infantile in fact. These poor girls, suffering frightfully every month, are told that if they will marry they will get well. Cases of hyperemia, if permitted to become chronic, will result in a subsequent destruction of the ovary, and later it will break down into a cyst or become cirrhotic. These latter are the cases which give the most trouble. I have had a number in which a small, hard, cartilaginous ovary was responsible for the most marked disturbance, such as obscure neuralgia, convulsions and other nervous troubles. They are the patients who are not benefited by any local treatment. Many cases of hyperemia treated early will probably be cured by electricity. Of equal benefit are rest, local depletion and abstinence from all things which will produce sexual excitement or physical excesses. We have ovarian, tubo-ovarian, uterine, intrauterine and extrapelvic conditions, which are responsible for this trouble. Our chlorotic girls suffer severely from painful menstruation and nervous disturbances in connection therewith.

Dr. E. G. Zinke, Cincinnati, Ohio—I did not wish to convey the impression that I was opposed to the use of electricity, nor that I condemn any individual who may be disposed to resort to it as a means of treatment. What I did wish to say was this: Our chairman, with his experience, endorsed what I said, that there was no case on record in which the use of electricity produced a cure of any diseased condition of the pelvic organs. It may give relief under certain conditions, although personally I have seen none. No fibroid, ovaritis, salpingitis or endometritis was ever cured by electricity. I know of no man who has more experience, who has investigated more ardently, more diligently, more earnestly than Apostoli, and yet none of his patients, where measurements and plaster casts were taken, was benefited more than temporarily. We never have menstruation without ovulation. We must have had ovulation in order to have menstruation. We may have menstruation after ovulation has ceased, as, for instance, when the menopause has been brought about artificially; but there is no case on record in which menstruation made its appearance when ovulation had never occurred.

Dr. C. C. Thayer—I have nothing to say in regard to my paper, as the points are put there for the consideration of others. The facts are recorded in many of the latest textbooks on the subject, and personally observed in clinical practice. In regard to the use of electricity in dysmenorrhea, I am greatly in favor of it in such cases. I have used it for twenty years, and appreciate its advantages more to-day than ever before. I have no criticism to make of people who have not used it or became familiar with it, but those who have tried it extensively find it to be a wonderful remedy in some patients with dysmenorrhea. Those gentlemen who look for the causes of this affection in the genitalia, do not look far enough. They do not understand the real elements that enter into the condition of dysmenorrhea in many cases, aside from the anatomic derangements or malformation. A most important cause is found in the disturbances of the nervous system, and oftentimes we must begin the treatment of it by directing our attention to general physical conditions. Hygienic treatment is an important item. Along the same line electricity comes in with its influence on the nervous system. It is not so much in dilating the blood-vessels, on which dysmenorrhea is not always dependent, but it is the general tonic effect of electricity. It facilitates free circulation and stimulates the entire nervous system.

So far as accumulation of fluid is concerned, I think that is an exploded theory. I have dilated the uterus time and time again, using the suction syringe to see if there was an accumulation, but found none, and when curetting have found nothing except what was necessarily attached to the mucosa. The accumulation theory is a false one, and in most of these cases I think we will find, as Thomas so beautifully and strikingly showed in his last text-book, "that dysmenorrhea is more often cured by a trip to Europe than by any process or treatment he ever used in his office."

Dr. G. T. Harrison—Dr. Massey can not prove the assertions he made. It is a pity I could not read the whole of my paper, so that you could see the argument. In speaking of Dr. Sims, I think he spoke rather slightingly of him. Of all the names that shine in the pages of the history of our profession, he can not bring forward any two greater names than J. Marion Sims and Carl Schroeder. The latter was one of the greatest and most gifted of modern surgeons. Those who have had the pleasure of seeing him in Berlin were impressed by his greatness, as his was one of the most majestic figures in Germany. As Martin said to a friend, we did not appreciate—fully at first, his loss— and it is only years afterward, after these men are lost to us, that we realize how great their value has been. When I can quote such authorities for the views I hold, I feel that I would rather err with those men than be right with Dr. Massey.

Dr. G. B. Massey, closing the discussion—I do not wish to be behind in my homage to Marion Sims, but the thought occurred to me recently that the day of authorities in medicine had passed away a short time after I graduated. More harm has been done by the blind following of authorities in medicine than by the inquisition of the middle ages. We want facts, not the personality of the man who brings them forward. Sometimes noble personages lead to the perpetuation of great errors. My paper was a very short one and referred only to the incurable sort of cases, those which are supposed to go to the surgeon, hence I welcome the many remarks made about the neurotic cases, those that can be cured without even the means I recommend. I took especial occasion to mention that the uterus should not be invaded by an electrode, or anything else, unless there was local disease of the endometrium. I can not too strongly corroborate the remarks made that needless examination should always be avoided, but there are cases, and I have in my mind quite a number that are destined to shipwreck in life unless they are cured. They come to me before, and they come to me after the dilatation, and it is to those that the second part of my paper particularly refers.

I need hardly say anything on the question of the accepted theory of obstruction. Dr. Bonifield's evidences of pain in connection with accumulation in the uterus were all traumatic. They were operative. You will find in the literature of the non-operative cases of pelvic accumulation that those are not diagnosed until the accumulation will at times amount to a pint of fluid. In other words, the patients have no pain. I have proven, too, that there is no obstruction, that there is no spasm, no actual muscular spasm. I reported a case some years ago, in which I found the cervix more dilated, coincident with the pain, than in the normal condition. After all, the most important element, as pointed out by other speakers, is the neuromuscular storm of the apparatus connected with the reproductive organs, and that explains the pain. It is not the physical obstruction, but it is the painful condition superinduced by the effort of the diseased organ to throw off the immense amount of excrementitious material which is to be thrown off at that time.

MOVABLE KIDNEY, FROM THE STANDPOINT OF THE GENERAL PRACTITIONER.*

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Movable kidney was first described by Rayer, in 1836, and since then various authors and writers have called attention time and again to the importance of this abnormal condition, among whom I might mention Hare, Keppler, Sulzer, Hahn, Edebohls, Ewald, Einhorn, Israel, Lewis, Noble, Senn, Keen, Reed, and others. The earlier writers treated it almost entirely from a medical standpoint and the later ones as entirely from the surgical.

My object is primarily to endeavor to interest the general practitioner in the subject, in order that he may be able to diagnose the condition, and to determine which cases should be treated medically and which surgically. I would also like to impress him with the fact that in many cases this condition is a most serious one, and unless it is recognized, and promptly and intelligently dealt with, very grave consequences may result.

The normal location of the kidneys, as well as their anatomical relations to adjacent viscera, are so well understood that I will not take up your time with a description of where they ought to be found, but will try to point out how you may be able to tell when they are in an abnormal position, and outline the symptoms somewhat in detail. The frequency of malposition of the kidney is astonishing, and it has been estimated that one woman out of every four has a movable kidney, and while they are not all of them suffering from it, yet in the vast majority of these cases it does produce symptoms which need attention.

There are probably thousands of women and many men suffering from the effects of a movable kidney to-day, and many of them seriously, who are being treated for indigestion, hysteria, neurasthenia, heart disease—so-called—albuminuria, and even mental disorders, such as hypochondria, melancholia, epilepsy, etc., and who are being drugged almost to death, and yet receive practically no benefit from their treatment. Such a condition of affairs should not exist, and there is no reason why any intelligent practitioner should not be able to recognize and diagnose a movable kidney, if he carefully examines his patient, and after having found it, he should be able to advise the best method for getting relief.

The etiology of this condition is a difficult problem, and the causes assigned by different writers are very many. In some cases it is undoubtedly a congenital condition, but in most of them it is acquired, although I believe that in a very great many there exists an individual predisposition, which is due to some abnormal congenital conditions.

Among the various causes assigned are tight lacing, relaxed abdominal parietes, the result mainly of childbearing, traumatism, and absorption or atrophy of perirenal fat. The last is probably one of the most common causes, as the greater number of cases of movable kidney will be found in thin people; in fact, it is almost axiomatic, given a thin woman, weighing 110 pounds or less, with various reflex nervous symptoms, and you are pretty sure to find a movable kidney.

Movable kidney occurs in the great majority of cases on the right side, and why this is so no satisfactory explanation has as yet been offered. Occasionally it occurs on the left side, and quite frequently both sides are affected at the same time.

The symptoms of movable kidney are very complex, and are common also to many other diseases, particularly those of the female sexual organs. In fact, in very many cases, there is coincident disease of the uterus and its adnexa. The nervous disturbances are greater in the early history of the displacement, and in those cases where the range of motion is not very great, while the localized discomforts are more pronounced where the condition has existed for a longer time, and where the range of motion is greater.

This is probably because the sympathetic nervous system, through the influence of which the various r symptoms manifest themselves, becomes accustomed to the abnormality after a time, and fails to notice it; while, on the other hand, after the condition has existed for a long time, and the range of motion has become greater, we have localized conditions, due to traction on the renal vessels and nerves, congestion and inflammation of the organ itself, and occasionally acute strangulation, due to torsion of the blood-vessels and ureter.

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In the earlier stages, the most common symptoms are digestive disturbances, nausea, epigastric pain, faintness, especially on first arising in the morning, cardiac palpitation, general nervousness, distension of the bowels with gas. These symptoms are aggravated by exercise and excitement. Many patients are unable to ride in steam or trolley cars without being nauseated; later on they complain of localized pain, or a sense of dragging or weight in the lumbar region, and occasionally severe pain, due to extreme congestion or an acute hydronephrosis from twisting of the blood-vessels and ureter.

Inability to lie on the left side is frequently complained of, and the most comfortable position is flat on the back, which position relieves all strain or traction on the blood-vessels and nerves, and permits the organ to resume its normal position and functions.

The diagnosis of movable kidney is comparatively easy. In most cases the patients are thin and the abdominal muscles relaxed, so that the kidney can readily be felt in either the hypochondriac or lumbar region, sometimes as low down as the iliac fossæ. The examination may be made either with the patient lying in the dorsal position, or standing. Personally I prefer the latter, as oftentimes, when the patient is lying on her back, the kidney goes back into its normal position and remains there and can not be felt at all. If examined while in the dorsal position the thighs should be flexed, to relax the abdominal muscles. The examiner sits on the right side of the patient, with his left hand passed under the small of the back, pressing deeply into the renal region, to prevent the kidney from slipping back into position unrecognized. The fingers of the right hand palpating the front and sides of the abdomen usually recognize the displaced organ.

When a movable kidney is discovered, it should be caught between the fingers of both hands and its characteristic shape outlined. Slight pressure will elicit some tenderness, and a peculiar sickening feeling will be complained of. The kidney readily slips from between the fingers back into position, and it is hardly possible to mistake it for anything else.

If the patient is examined in a standing position, she should have her clothing loosened and her skirts supported by a nurse or assistant, or by the examiner himself, so that she will not be embarassed with the fear that her clothing will fall off. She should stand before a table or stand, with her hands resting on it, bending slightly forward. The examiner stands behind the patient, with the thumb of the right hand pressing firmly over the lumbar region, and the fingers pressing deeply in front. The kidney is then felt between the thumb and fingers very plainly, and upon slight pressure slips back into position; oftentimes the patient can distinctly feel it slip from between the fingers and will tell you so.

When the left kidney is examined, the left hand is used in the same way. The advantage of this position is, that very often you wish to examine a patient and there is no nurse or assistant to hold her skirts, and the examiner can hold her skirts with one hand while examining the kidney with the other.

In some cases, where the patient is not very thin, it is necessary to use both hands, and under such circumstances the examiner should sit at the right or left side of the patient, according to which kidney is to be examined, and use the one hand behind and the other in front.

Occasionally the abdominal muscles are so hard and rigid that it is impossible to feel anything. Under such circumstances it may be necessary to administer an anesthetic. Movable kidney must not be confounded with a distended gall-bladder, a displaced liver, or other intra-abdominal tumors. A careful examination of the tumor will easily disclose the characteristic shape and size of the kidney, and the history of the case will, if carefully studied, aid in the differentiation.

The prognosis of movable kidney is favorable if properly treated. There is, however, a very positive danger from such a condition that has been of long standing. The traction on the veins, together with an occasional twist in the blood-vessels and ureter, produces congestion, which is after a time followed by inflammatory changes in the tissues, and eventually you have a chronic interstitial nephritis, manifested by tube-casts and albumin in the urine. Acute hydronephrosis is not uncommon, and this in time may be followed by pyonephrosis. Acute strangulation may also occur with necrosis if it is not promptly relieved.

In all cases the patients are chronic invalids and their lives made very miserable, if not actually shortened, by the neglect to recognize and treat this condition. The treatment may be divided into medical, mechanical and surgical.

1. The medical treatment would consist in the use of such measures as would improve the general health of the patient, together with the accumulation of surplus fat. The rest treatment, with forced feeding and massage is sometimes beneficial, at least temporarily, but as soon as the patient returns to her ordinary duties the condition is, in most cases, reproduced. Toning up the nervous system, as well as the digestive apparatus, relieves the effects of this condition sometimes, but does not alter the conditions themselves, and therefore must of necessity be only temporary. For this purpose, I know of nothing equal to tincture of nux vomica in large doses, together with cold douching of the spine, followed by brisk rubbing.

2. The mechanical treatment consists in the use of elastic bandages, sometimes fitted with a special pad, called a kidney pad, and in some cases this device relieves the symptoms, but I doubt if it ever keeps the kidney in its proper place.

3. The ideal treatment is surgical, and with our improved methods and technique it is attended with a very small mortality, practically none at all when it is not complicated by other abnormal conditions.

This condition is so frequently found in multiparæ and associated with various lesions of the uterus and other pelvic organs that the gynecologist necessarily comes in contact with the greater number of cases, and a number of operations have been devised for its relief.

It is not my purpose to discuss the merits of the different operations, nor to recommend any particular one, but I wish to say that my own cases have always had a nephrorrhaphy done, with buried silk-worm gut sutures, and in every instance the patients have been restored to perfect health and able to perform all the duties required of them in their different stations in life without any difficulty.

To recapitulate, I would like to emphasize the following points: Examine carefully every patient who weighs less than 120 pounds and complains of general nervous symptoms, indigestion, palpitation, etc., for movable kidney. If you do not find it at your first examination, look for it again, and even for the third time, as you will frequently fail to find it at your first examination, and will be able to demonstrate it at your second or third. After having found it, study carefully all the symptoms and conditions and decide what is best to be done. When you have so decided, if you favor surgical treatment and are not qualified to operate yourself call to your assistance some one who is and have him operate for you. As to the particular operation, let the surgeon decide that point and hold him responsible for the results. If I have succeeded in interesting one general practitioner in this important subject, and he goes home inspired with the knowledge that he can bring relief to some of his patients who may have been suffering for a long time from this condition unsuspected then I shall consider my time and effort well spent and shall feel amply repaid for what has been so imperfectly done.

SOME NOTES ON THE CLIMATOLOGY OF ARIZONA.[*]

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It is the purpose of this paper to call your attention to a region about which much has been said and written, and yet concerning which little is known by the medical profession. This lack of knowledge is not limited to the district under consideration and comes through the absence of climatological teaching in our schools and the dearth of literature on subjects pertaining to climate. In the great library of the College of Physicians and Surgeons, in Philadelphia, only one volume on the subject of medical climatology is to be found, and this is really limited in its scope. In about five hundred papers scheduled for this Association only three bear any relation to climate.

Our text-books make reference to the Southwest in a general way in recommending climate for this, that or the other disease, failing frequently to differentiate betwen the climates of this region. The fact is that there are almost as great differences in the climates of the so-called arid Southwest as there are between the climates of the Atlantic seaboard and the Southwest. This paper simply calls attention to the conditions which obtain in Arizona, leaving to the judgment of the practitioner the applicability of the climate to disease.

Arizona is an immense territory on the west of the great Rocky Mountain divide, extending from the northern line of Mexico 400 miles northward, and between California and New Mexico, east and west, about 350 miles.

Solly, in his "Medical Climatology," says: "An inquiry into the climate of Arizona discloses the fact that it is climatically distinct from each of its neighbors, New Mexico and California, and has natural laws of its own, although these laws are modified in turn by the climatic influences of both the Pacific Coast and the Rocky Mountains." He might have added that within Arizona itself almost every physical feature and climatic condition known to any portion of the United States is to be found. The reason for this is found in the physical features of the country and its relation to the Gulf of California and the Pacific Ocean.

For the purpose of the climatologists the territory has been variously subdivided. The classification most commonly given is that of Captain Glassford, namely, a plateau, a pro-plateau and plain. The present section-director of the weather bureau has made a new classification, which seems more satisfactory. That portion of the territory lying west of parallel 113 and extending to California and Nevada he includes in the district which approximates the "plain" of the other classification, and by dividing the remaining eastern portion by the 34th parallel of latitude, he has a northern and southern district, corresponding approximately to the plateau and pro-plateau of Glassford. In two stations of the western division for the year 1898 the mean temperature was 68.9 F. For six stations in the northern division the mean temperature was 52.03. For twenty-two stations in the southern division the mean temperature was 64.01.

On the other hand adopting the classification of plateau, pro-plateau and plain, we find that the plain occupies the southwestern one-third of the territory. The elevation of the plain varies from less than 100 feet above sea-level to about 3000 feet.

Do not get the idea that this is a perfectly level area, for it is not. True it is a plain, but there are mountains and valleys within it, but they are not numerous nor are the elevations great. The soil of this region is largely composed of a rich loam in the valleys, a sandy gravel on the mesas and the usual rocky formations in the elevations. There is very little vegetation except the cactus, sage bush and mesquite, except where irrigation is employed. As the cities which are visited in the winter and spring by thousands of invalids are within the district, making it the most important area from the standpoint of the medical climatologist, we will pause to review the conditions obtaining.

The assertion has been made that the elevation of the plain varies from sea-level to 3000 feet. Taking the only available report from a medium altitude as an average we choose the report from Phoenix for an average year.

For January the monthly mean temperature was 50.4 F., the mean maximum was 63.3 and the mean minimum 37.4. The mean daily range was 25.8 and the greatest daily range 33. The mean variability was 25, the mean of the three consecutive warmest days was 71. The maximum temperature for the month was 73, the lowest maximum was 52 and the highest minimum was 46 F. The mean relative humidity for the month was 49 per cent. The average hourly wind velocity was 3.7 miles. The total precipitation was 1.76 inches, which was 40 per cent. above the average. The percentage of possible sunshine was 85.

By way of comparison the averages at an elevation of 5000 feet in about the same latitude, in the plateau, gave the following: The monthly mean temperature was 41.5, 9 degrees lower. The mean maximum was 53.4, 7.1 degrees lower, the mean minimum was 29.6, being 7.8 degrees lower. The maximum temperature for the month was 66 as against 73 on the plain, and the minimum temperature was 17 as against 29 on the plain. The mean relative humidity for the month was 60.5 as against 19 per cent. The precipitation was 5.4 inches, some 30 per cent. below normal. The percentage of possible sunshine was 65, as against 85 on the plain.

In order to save time and continue the comparison we will take the month of April, the first of the next quarter. The monthly mean temperature was 68.8, the mean maximum 83.8, the mean minimum 53.7, mean daily average range was 30.1 and the daily range 41, the mean variability was 2.6, the mean of the three consecutive warmest days was 93 and the mean of the three coldest days was 47, the maximum temperature for the month was 95 and the minimum 42 degrees. The lowest maximum was 65, and the highest minimum 66 degrees, the mean relative humidity was 28 per cent. The average hourly velocity of the wind was 5 miles. There was only a trace of precipitation. The percentage of possible sunshine was 83. No rainy days were noted.

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For this month in the plateau the mean monthly maximum was 79.91, as against 83.8, the mean minimum was 49.2, as against 53.7, the monthly mean was 64.6, as against 68.8 on the plain. The relative humidity was 22 on the plateau and 28 on the plain. The wind velocity of the plateau was 12.6, against 5 on the plain.

Taking July for another comparison, we have a monthly mean on the plain of 91 F., the mean maximum 103.7 and the mean minimum 78.2, the mean daily range was 25.5, the greatest daily range was 32, the mean variability 2.7, the mean of the consecutive warmest days was 109 and the mean of the three consecutive coldest days 70, the maximum for the month was 112 and the minimum was 68. There were 31 days with maximum above 90, 29 days above 95, and 24 days above 100. The lowest maximum was 92 and the highest minimum 84 F. The mean relative humidity was 40 per cent. This is accounted for by the fact that July is the rainy month of this region. The average hourly wind velocity was 4.7. The total precipitation for the month was .87 inches. The percentage of possible sunshine was 78.

For the same month on the plateau the mean maximum temperature was 91.1, as against 103.7, the mean minimum was 68.9, the mean monthly temperature was 80. The relative humidity was 9 per cent. higher than on the plain. The rainfall was 2.89 inches, against .87. The velocity of the wind was 100 per cent. higher than the plain. The percentage of possible sunshine was about 15 per cent. lower on the plateau.

The month of October on the plain was as follows: Monthly mean 68.9, mean maximum 82.1, mean minimum 55.7, mean daily range was 26.7, the maximum temperature for the month was 96, and the minimum 40. The lowest maximum was 66 and the highest minimum was 72. The average hourly wind velocity was 4.3, the mean relative humidity was 40 per cent. The total precipitation was .3 inch. The percentage of possible sunshine was 78.

On the plateau the mean maximum temperature was 76.2, against 82.1, the mean minimum was 49.7, against 55.7, the monthly mean was 63, against 68.9. The humidity was .51, against 40 per cent. The velocity of the wind was 9.8, against 4.3. The percentage of possible sunshine was 66, against 78.

For the year the means were as follows: On the plain the mean monthly temperature 70, mean maximum 84, mean minimum 56. The total precipitation for the year was 5.19 inches. The mean relative humidity was 36. There were 245 absolutely clear days in the year, 86 partly cloudy, and 34 cloudy. The percentage of possible sunshine was 85. The average hourly velocity of the wind was 4.4 miles.

On the plateau the means were as follows: Mean monthly temperature 48.2, mean maximum 58.5, mean minimum 37.6. The total precipitation was 19.6 inches. The mean relative humidity was 52. There were 180 clear days, 149 partly cloudy, and 36 cloudy. The percentage of possible sunshine was 65. The average hourly velocity of the wind was 7.1.

Thus it is seen that Arizona presents a great diversity of climates within her own borders, varying from the subtropical to the almost perpetual snow on the peaks of the high mountains of the north. Yet there is a marked similarity in all portions in the essentials of a dry climate, namely, the low relative humidity and the high percentage of possible sunshine. No region in the United States, and perhaps in the world, equals or even approximates the southwestern plain of Arizona for the dryness of atmosphere, the days of sunshine and low velocity of the wind. As in all dry climates, there is a marked difference between shade and sunshine, day and night, but it is a difference which is regular and constant, and can be guarded against by the invalid, because it can be anticipated.

Furthermore, Arizona offers any altitude from sea-level to 13,000 feet, and she has mineral and thermal springs whose virtues are just beginning to attract attention. If a maximum of sunshine, a minimum of moisture, with the ability to live out of doors in any elevation desired, meets the requirements of the medical profession of America, Arizona presents claims which demand consideration.

PREVENTIVE TREATMENT OF MIGRAINE.*

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The explanation of numerous diseased conditions on the theory of autointoxication has found ready acceptance because of its simplicity and because of much apparent evidence in its favor. This has been an especially welcome hypothesis to account for that obscure group of diseases known as the neuroses, for which all other theories have been so unsatisfactory. In this group it has been common to include migraine. Theoretical considerations, clinical observations and therapeutic results all point strongly in favor of such a hypothesis. But, however simple this theory seems in its statement, it in fact only throws the mystery a step further back. It is an explanation which needs explaining. It opens questions which involve the most complex problems of physiological chemistry. What are the toxic substances? Where and how are they formed? What organs are involved? These and many other questions have not yet been solved, and probably will not be for a long time. This is about the conclusion to which Ewald[1] comes in his recent elaborate review of the subject, which is the best summary of our present knowledge that has been published.

Bouchard's well-known work will remain one of great value, although all of his conclusions are not accepted, as will also the work of Alexander Haig on uric acid. How thoroughly the uric-acid theory has taken hold of the professional mind is evidenced in the frequency with which we find recurring in the medical literature of the past fifteen years the terms "lithemia," "uric-acid diathesis," "uricemia," etc.

As to migraine and similar disorders, Haig's results have been confirmed in so far as the increase of uric acid in the blood preceding the attacks is concerned, and as to the fact that preventing the increase of uric acid usually prevents the attacks. However, it has never been accepted that uric acid alone was the noxious agent.

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[1] Berlin. klin. Wochensch., Feb. 12 and 19, 1900.

The discovery of ptomains and leucomains raised the presumption that some of these bodies, particularly the leucomains, might be the real causative agents, especially when it was found that the symptoms produced by the injection of these substances into animals closely resembled the symptoms of some of these diseases. As the leucomains may be supposed to fluctuate along with the uric acid in the metabolic changes of the body, we have in this supposition supplied exactly what has been wanting as a causal factor.

About 1895 I became interested in the investigations my fellow townsman, Dr. B. K. Rachford, was making along this line. He apparently demonstrated the presence of paraxanthin in excess in the urine following attacks of migraine and migrainous epilepsy.[2]

Not only did his experiments seem to be conclusive, but the results of treatment on the lines thus indicated seemed to confirm it. Unfortunately other experimenters have not been able to confirm Dr. Rachford's results. Dr. Pfaff,[3] of Boston, has failed to find paraxanthin in the urine in such cases. Drs. Forcheimer and Stewart have apparently shown that the toxic properties of urine are due to bacteriological growth after it has passed, and that urine, either from a normal or migrainous subject, which is kept sterile is not toxic. These results throw considerable doubt on the reliability of Dr. Rachford's results, so that we must admit that however attractive and however probable, they are as yet not demonstrated.

To us, as therapists, the result of treatment is the main question, and here, as elsewhere, our therapy may be in advance of [illegible] though I can not be sure of Dr. [illegible], I have had in cases of typical migraine great satisfaction in following his plan of preventive treatment as given in his various papers published in the *Medical News* and *Archives of Pediatrics.*

In its essentials this treatment, it is true, is not original. Since Haig's book appeared in 1892, I had, with fair success, followed his treatment of exclusion of meat diet, the administration of salicylates and other drugs which favor the elimination of uric acid; but my success has been much better in thoroughly carrying out the treatment of Dr. Rachford.

It must not be forgotten that, notwithstanding some form of leucomain poisoning may be the efficient cause, those concomitant causes which are enumerated in the text-books under etiology should not be neglected. Perhaps the most important of these is eye-strain. So frequently is this found that some writers have been inclined to make it the chief pathological factor.[4]

But the correction of ocular defects does not always cure without further treatment. Uterine and menstrual disorders must have appropriate attention. In children, adenoid growths should be removed. Vicious habits and hygienic sins must be corrected. Some of the French writers have ascribed an important rôle to dilatation of the stomach and proptosis of the abdominal organs in the production of sick headache. By favoring fermentation and absorption they may be predisposing causes when present. One such case has come under my care.

Case 1.—Mrs. J. W., aged 41 years, widow, mother of two living children, of lithemic diathesis and with lithemic family history. General health is excellent; she has severe headaches recurring every ten or twelve days, accompanied by nausea and vomiting, with dizziness and flashes of light before the eyes. Pain is worst on right side, but radiates over whole head; has some fermentative dyspepsia with coated tongue, eructations, etc. Bowels constipated, urine somewhat scant and high colored. Has been subject to migraine nearly all her life. Physical examination negative, excepting relaxed abdominal walls with descent of stomach, lower margin of which is one inch below the umbilicus. An abdominal bandage was ordered; daily lavage was made for two weeks, then tube used only when symptoms of gastric fermentation returned or a headache threatened. Meat was excluded from the diet; the constipation corrected; lithia water given freely; exercise in open air ordered.

There was an immediate improvement, the headaches recurring only with some violation or neglect of instructions. Since the migraine had existed prior to a time that it was likely her proptosis began, for there was a distinct tendency to lithemia, it is not likely that the proptosis was more than a minor causal factor. My observations have convinced me that the essential in preventive treatment is the withdrawal of the red meats from the diet. At the beginning this is a hardship for many patients, but after a time they lose the craving for meat and very willingly avoid it. The hearty co-operation of the patient is essential for success. I am accustomed to say to such patients: "Your headaches are due to a constitutional tendency which can not be removed, but you may have your choice of suffering or being practically free from them by practicing self-denial and following certain rules." This plan of treatment is briefly as follows:

1. Red meats are to be rigidly excluded; fish, bacon, brains, sweet-breads and eggs are allowed. Rich and highly-spiced dishes are to be avoided. Coffee, tea and alcoholic beverages are to be excluded. Sweets should be reduced, but when meats are excluded a moderate amount is well borne. Water may be taken very freely. Meals to be taken at regular intervals and overloading of the stomach to be avoided.

2. As much outdoor exercise is to be taken as possible—undue fatigue to be avoided—rooms always should be well ventilated, both by day and night; and hot baths taken two or three times a week. In some cases the Turkish bath is beneficial; in some cases the morning cold sponge bath is directed.

3. The medicinal treatment aims to regulate the bowels, to promote intestinal antisepsis and to stimulate the liver, the great organ for completing the oxidation of the products of metabolism, and protecting the body from poisoning. The same end may be attained by various means. The various salicylates are all useful. In obstinate cases an occasional mercurial is required. I have had the best result in the long-continued use of some of the formulæ recommended by Dr. Rachford.[5] The one most commonly used is as follows: sodii sulph. (crystals), 120 grains; sodii phosphat., 30 grains; sodii salicylat., 10 grains; tinct. nucis vom., 3 drops; aquæ dest., to make 4 ounces. This dose is to be taken before breakfast each morning and is best taken in a glass of seltzer, or still better the ingredients are made up in these proportions in large siphon bottles charged with carbonic acid. The proportions are variously modified in different cases. In my own case I have so far seen no benefit from the use of potassium permanganate, which Dr. Rachford frequently uses.

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[2] Trans. Assoc. of Amer. Physicians, 1895, Med. News, May, 1896.

[3] Trans. Assoc. of Amer. Physicians, 1899.

[4] E. C. Seguin, Cyclopedia of the Diseases of Children, iv, p. 832.

[5] Archives of Pediatrics, Oct., 1897.

From a number of cases which have been kept free or nearly free from suffering for a long time I select the following:

Case 2.—Mrs. C. E. S., aged 42, large and fleshy, of indolent habits, has been subject to sick headaches since puberty, general health is good. She came under treatment in April, 1898, at which time she was having an attack of typical migraine every two weeks, of great severity. After ruling out ocular defects and other sources of reflex disturbance she was put on the course of treatment above outlined. The above mixture in siphon she took each morning for several months, and still takes it for a few days or weeks if she becomes constipated or is threatened with a return of headache. The headaches disappeared almost immediately after beginning the treatment, and now recur very rarely and only when she breaks some of her rules.

Case 3.—Robert S., aged 9 years. In early childhood, as nearly as his mother can recall, when between 2 and 3 years old, he began to have paroxysmal attacks of vomiting with severe headache and great prostration. He continued to have these attacks every two or three months with occasional milder attacks between. In the severe attacks he became unconscious, with head strongly retracted, with pupils contracted. On several occasions physicians who saw him believed that he was developing meningitis. All treatment had failed to do more than mitigate the attacks. He was very fond of meat, and it was quite a struggle for him to give it up. However, he very manfully submitted to the ordeal and was rewarded by almost complete relief for the past year and a half. He is allowed to have a little chicken occasionally. He now cares so little for butchers' meat that he does not eat it if placed before him. He has grown stronger and more robust. The oculist's report in this case was negative. He took a mixture of salicylate, phosphate and sulphate of soda before breakfast for one year, and still occasionally takes it.

In two other school children of about the same age I have had the same result, except that in one but little benefit was derived until errors of refraction had been corrected, and the third had constant relapses, from failure to follow the treatment, although quite free when closely adhering to it.

Case 4.—Mrs. G. D., aged 37, has family history of gout and rheumatism, is subject to rheumatism and neuralgia, has severe headaches just preceding each menstrual period, with extreme nausea and vomiting. The pain is supraorbital and on the right side. She is also subject to headaches which are not migrainous in character. She has astigmatism and myopia. She has also had pelvic inflammation leaving retroversion and adhesions. As her reflex disturbances can not all be removed and as the pelvic conditions do not allow vigorous exercise the result of treatment has not been entirely successful in her case. However, her attacks have been so greatly mitigated in severity and diminished in frequency that she very gladly adheres to the main outlines of this plan of treatment and most of the time has a siphon of the saline mixture on hand.

These are but a few cases chosen to illustrate the general outline and general principles of treatment of a large class of people, many of whom had life made miserable by the constant recurrence of their attacks of sick headache.

DISCUSSION.

Dr. Heinrich Stern, New York City.—The medical men of this country should be thankful to Dr. Rachford, of Cincinnati, Ohio, for pointing out that paraxanthin, which is the urotheobromin of the older experimenters, is found in increased quantities in the urine of persons who have been subjected prior to the enlarged excretion of this substance to an epileptic attack. Migraine possesses an epileptiform character, and I have found, repeatedly, a greatly increased output of this dimethyl-xanthin body in the urine of patients habitually suffering from migraine. Paraxanthin melts at 295-296 C., and forms glistening plates often 4 mm. broad. It crystallizes occasionally in needle-form crystals. It is hardly soluble in cold water. In hot alcohol it dissolves readily. Its solutions react neutral.

The methods employed by Bouchard in his experiments are irrational, imperfect and in a measure nonsensical. As I stated some years ago—Recent Studies in Urinology—there are mainly two objections to the experiments alluded to by Dr. Mitchell: 1. The direct introduction of the urine of man into the circulation of the rabbit. 2. The application of the phenomenon thus produced toward forming conclusions as to the autogenesis of certain diseases in man. The poisonousness of the renal secretion, I contend, may depend on certain elements which are not preformed in the blood, and which are transmitted into the urine from another source.

I am sorry that the time allowed for discussion does not permit of going at greater length into Bouchard's experimental fallacies and subsequent irrational conclusions. We American physicians have no business whatsoever to accept every new fad in medicine on account of its newness or because it is imported.

The red meat, chemically speaking, does not seem to differ materially from the white meats. The xanthin bodies are contained in the white meats in about the same quantities as in the red. Birds excrete enormous quantities of uric acid. This substance is contained in goodly quantities in the liver and muscles of geese, turkeys and other poultry. Most flesh of poultry is classified as "white meat," but it certainly contains all or nearly all these substances which we wish to keep out of the organism, when we prescribe a diet without "red meat."

Dr. J. H. Yarnall, Washington, D. C., said that he has all his life been a great sufferer from migraine. His diet has consisted almost exclusively of red meats, never having eaten but one vegetable. He has at different times tried strict dieting, abstaining from meats and living on milk, eggs and dried bread without noting any difference in the frequency or severity of the attacks. The treatment that affords him the most relief is perfect rest; as soon as he notices the scintillating sparks appear before his eyes in the premonitory stage, he goes, if he can, into a darkened room and lies down, takes a small amount of whisky, and remains perfectly quiet; he generally gets over an attack in this way in an hour, but if the circumstances are such that he can not do this at once, the acute attack ensues with the most intense headache, the pain being of such a piercing character that he has had to take a small dose of morphia for relief. This treatment is only palliative, and has no effect in diminishing the frequency of the attacks. His experience has been that there is no distinct line of treatment that will suit all cases, but that each must be studied and treated on its own merits.

Dr. A. L. Benedict, Buffalo, N. Y.—What is most needed in a discussion of this topic is an agreement as to what is meant by migraine. Oculists say that it is a headache due to eyestrain; some clinicians say that it is a gastric reflex; others go so far as to declare that it is essentially gouty. If asked just what they mean by "gouty migraine," they will answer that it depends on an intestinal indigestion. If we question further as to the nature of the failure of intestinal function, we meet with no satisfactory explanation. In some instances migraine seems to be the expression of a bacterial development in the lower bowel. In such cases great relief may be obtained from thorough flushing of the bowels, both by the rectum and through the mouth. In the use of colonic lavage, we must be careful to avoid the time of gastric digestion, for the reasons pointed out by Dr. Fenton B. Turck, of Chicago.

Many of these cases of so-called migraine are due to deficient secretion of hydrochloric acid, and are best treated by the administration of this acid. I wish to emphasize this point because so many physicians, relying on the sourness of which patients complain, fall into the error of considering the condition one of superacidity. In a sense, it is superacidity, but of an organic kind and best combated by hydrochloric acid, though alkalies will give immediate relief. I admit the possibility of mirgaine due to hyperchlorhydria, but, in my experience, this symptom is very rare in patients who have an excess of hydrochloric acidity.

Dietetic causes are certainly operative, but I believe that the essayist has too severely condemned sugar and candy. Most of us, at least in America, eat about three times as much meat as we should. I do not mean this as a general statement, but as one representing an actual, though approximate, arithmetic calculation. If we estimate the amount of proteid contained in bread-stuffs, vegetables, eggs and milk, we shall find a very small amount left to be provided in the form of meat. The ordinary serving of meat at a first-class restaurant is considerably more than should be taken in the course of an entire day. If we eat more than one meat or fish course, or if, as most of us do, we eat meat, hot or cold, fresh or preserved, at every meal, we exceed the normal ration at least twice. Now, with this excessive diet of proteid and of proteid rich in extractive, that is excrementitious, matters, if we take two or three pieces of candy and have a headache, the average layman, as well as the average physician, ignores the meat and lays the entire blame on the sugar. Very few of us are using muscles or wearing out our brains to such a degree as to need very much reparative material, and this is the sole physiologic function of proteid, although it may, in an emergency such as diabetes furnishes, be employed as a producer of heat and force. Sugar, on the other hand, is a valuable and concentrated fuel-food. All carbohydrates are digested into glucose before being of use to the body, and we have a special intestinal ferment to split into glucose, the three double hexoses, milk-sugar, maltose and cane-sugar. In many cases of migraine we find an excess of indican in the urine and an excessive virulence of the colon bacillus, due to the presence of an excess of undigested but rotting proteid. It certainly is a mistake to incriminate sugar and candy in such cases, though their excessive use may aggravate the essential condition.

Dr. J. N. Upshur, Richmond, Va., wished to refer particularly to the use of red meat and the supposed lithemic cause of migraine. He thought, after reading Haig's book, that Haig has a hobby and rode it, booted and spurred, for all it was worth. The speaker had seen many cases of migraine, in which it would not apply, cases of headache from other causes beside digestive disturbance. Many of his patients presented symptoms of overwork of the nervous system, one of the first symptoms of breaking down in some of these was the failure of digestion, but not from any dietetic cause. There is probably in many of these an accumulation of uric acid in the emunctories of the body, as the result of disturbance incident to nerve strain. Like the gentleman from Washington, he had himself personally suffered from migraine, but in his case it was a condition of lithemia due to overwork. The attacks were associated with intense pain in the colon; requiring several weeks to break it off by careful treatment. Patients may suffer from migraine without committing any errors of diet, but as the direct result of overwork and nervous strain. There is a prominent member of the Association, a tireless worker, who, finding himself suffering with lithemia, followed out the plan of Haig, although he was the smallest eater of any man the speaker had ever seen. He did not need to be dieted, but did require a careful building-up treatment. The result of following out this plan of Haig's treatment in this case has been most unfortunate, and the distinguished patient is practically "laid on the shelf" in the midst of his usefulness. We do not yet know the pathology of gout and lithemia. The speaker noted a distinction between gout and lithemia. In a case of gout we have a history of a man who eats heartily and takes his bottle of Burgundy and goes to bed, feeling very contented with himself and the world, but wakes up at 2 o'clock in the morning, feeling as if a blacksmith had his toes in a vise. The next day he feels well and does it all over again. That is the result of indulgence in the pleasures of the table and is common in England. In this country, on the contrary, we make eating entirely a secondary consideration. A man here usually will only take twenty to thirty minutes for his meals, and really does not give enough attention to the subject. Personally he is a very small eater and cares little for food, but lives under constant strain and pressure, and from this overstrain of the nervous system he has a condition, from time to time, of something which he calls lithemia, although he does not know whether it is uric acid or some other error of metabolism. In the treatment, however, some action must be had upon elimination, either by the kidneys or the liver, in order to overcome it; and until evidence is obtained of proper secretion of bile from the liver, all other remedies will be of no effect. You must use one of the mercurials and follow this up with phosphate of sodium, which is the best solvent of uric acid that we can have. He gives it in hot water several times a day, until full action is obtained and then he follows it up with salicylate of sodium. Some physicians prefer salol, which is the most infamous concoction that has ever been introduced. A man does not want to put into his stomach anything that, for several days after taking it, will make him feel as if he had a hornet's nest in his stomach, from the eructations of gas. The principal thing is to relieve the nerve-strain. What the condition needs is rest, not dieting but every patient must be treated according to his individual merits, by taking away the red meats in some cases, while others needing nourishment are allowed the red meats in moderate quantity with other food. In most cases, the best nourishment is plenty of fresh milk.

Dr. J. M. Allen, Liberty, Mo., said he had noticed that in regard to migraine, or old-fashioned sick headache, it subsides if the patient lives to be 55 or 60 years of age. The pathology of migraine is unsettled. It commences with pain in the head and is followed by nausea. Is the nausea due to the headache, or is it due to reflex, or other causes? In some cases it is observed that the stomach is intensely acid, and the intensely acid fluid passes through the pylorus. When there is not enough alkali there to overcome this acid condition of the contents of the intestine, in order to produce the necessary digestive changes, the result is interference with metabolic processes. The next phenomenon noticed is an increased flow of urine. As a result of the faulty metabolism, we have some noxious substance present in the blood, and this is thrown off in a large flow of urine. Some say there is deficient action of the liver. If there is any way of discovering when the liver does not secrete bile, he would like to know it. The liver keeps right on secreting bile. When the stools are pale, it is because the biliary ducts are obstructed, and all cholagogue remedies do harm. Moreover, the retained bile can not be the cause, for we know that just where biliousness should be expected in catarrhal jaundice, where there is no obstruction of the gall-ducts and the white stools, these symptoms are absent.

Dr. E. H. Bartley, New York City, said that he would like to harmonize the various conflicting theories which had been mentioned with regard to the pathology of migraine. The accumulation of uric acid has been blamed by some; others hold that the digestive disorder is the principal factor, and others believe nervous disturbance to be at the bottom of the matter. Each view is partly right. There is impairment of digestive processes, but the nervous strain leads up to the digestive disturbance and the lithemia. The nervous strain is not the direct cause of the lithemia, but leads up to it. It must be remembered that Haig's method does not distinguish between uric acid and the xanthin bodies, so when Haig says uric acid, he means uric acid plus the xanthin group of bodies to which reference has been made by Dr. Stern. There is one point in diagnosis that is important. Where the nausea precedes the headache, it is usually a case of migraine due to stomach disorder, but where the headache comes on first it is likely to be one of nervous origin, often due to eye-strain. With regard to the cure of the patient, we can get the attacks to come a month or two months apart, or even at longer intervals, but in a patient with this tendency to migraine, he can not always expect to get entirely rid of the headaches, and he should be told this so as not to expect too much from the treatment.

Dr. E. W. Mitchell, in closing, said that in his paper he had spoken only of typical cases of migraine. In the discussion he had not heard anything to disprove the fact that the xanthin or alloxuric bodies are not present in the urine. While we may not accept the work of Haig to the full extent, yet it clears up the subject. It is quite probable that varying symptoms may depend on varying amounts of these partially changed bodies being carried over and not burned up. It is likely that the liver is the organ which has the function of converting these bodies. So we come back to the former views as to biliousness and inactive liver, but we have a more scientific view as to what is meant and how the liver may be at fault. The essential point in the treatment is not one remedy, or single combination of remedies, but following out the plans of treatment indicated, which he had adopted with such success that he felt warranted in bringing it before the Section. In some cases, meats can be withdrawn and eggs substituted; he also recommended to his patients to use brown and particularly corn bread instead of white. In regard to the discussion about the red and the white meats, there is a difference independently of the question of the proteids. He considers the white meat more easily digestible. Where there is disturbance due to bacteria, it would be advisable not to use meat at all. In the laboratory we use meat broths for making cultures of virulent bacteria, and perhaps their use might favor such infection in the bowel.

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Then, as soon as I could have it prepared, I injected nearly a half-gallon of hot salt solution into the bowel and held it there by pressure on the anus for one-half hour; her pulse came up, and she resumed to some extent, her natural color. I then put her on turpentine and ergot every two hours.

There was no more hemorrhage. The entire ovum was expelled, and there being no placenta I did not, in her prostrated condition, examine for clots. I saw her the next day, and found her doing well, with no further hemorrhage.

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Case 3.—This was a neglected case of cholera infantum in a child of eight months. It had vomited and purged nearly three days when I saw it, and was nearly exhausted. The small vibration of pulse at the wrist could not be counted. It had kept food on its stomach only a few minutes at a time since it had been taken sick. It was very restless, and reached and cried for anything in a glass or cup, from intense thirst.

I injected about 1/40 grain of morphin with a minute portion of atropia, in its arm; as soon as I could have the salt solution prepared, I injected nearly a pint into the bowels, retaining it by pressure. In less than an hour its pulse came up, and it became quiet. I then allowed a teaspoonful of milk every fifteen minutes. It ceased vomiting, and in a few days, under proper treatment, was restored to health.

It is astonishing with what rapidity the sigmoid flexure and colon can absorb fluids in conditions where the blood-vessels are virtually empty, as illustrated in the above cases. It seems to me that this would be a better, if not a quicker, mode of introducing salt solution into the system than by hypodermic injections, likewise less painful to the patient and less dangerous than transfusion. In cases of emergency, like those above related, it is essential to get the fluid into the circulation as quickly as possible; it can be done by enema much sooner than we can get ready to do it by either of the other modes.

Another advantage is that the sterilization of instruments is not necessary; no time is lost thereby. We require only a fountain syringe, and in its absence a common hand syringe will answer the purpose. The salt solution should be sufficiently warm, about 110 to 115 F., and of the strength of an ounce of sodium chlorid to the gallon of water.

In using the hypodermic injections, we have to be prepared with the proper size of needle, which should be sterilized before using. This operation should be only done by the physician. Transfusion is attended with more risk to the patient and should only be done by the most careful and painstaking physician, and in fact it would always be advisable, when this operation is performed to have consultation.

In cases of emergency, like those above related, we have not time to send for instruments or medical assistance. Therefore, we contend that the quickest and safest plan, in such cases, is the best.

Salt solution is not only used as the proper fluid to restore the lost volume of blood to the system, but is also regarded as an effective antiseptic.

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Dr. J. M. Allen, Liberty, Mo., approved of the teaching of the paper, which was on a comparatively new subject. Not every physician is in a position to transfuse blood, but rectal injections of normal salt solution can be practiced by every one. The one great difficulty experienced is in getting the fluid to rise above the sigmoid flexure. His own plan has been to raise the hips of his patient by allowing him to lie across, and partly over, the bed, with his shoulders near the floor. By this expedient the injection is very easily introduced and retained. With the aid of ergot to constrict the tissues and strychnin to overcome the anemic condition of the brain, and the use of this method, he does not see that it is necessary to lose a single case of this character. Time is what is wanted, and only a short time, and this expedient keeps the patient up until the blood-vessels are again fully supplied with blood.

Dr. J. Tracy Melvin, Saguache, Colo.—In the treatment of cholera infantum, there is one fact which must impress itself on every practitioner, i. e., that the saline injection is the one remedy for the relief of genuine cholera infantum. There is generally too much time lost in trying other remedies. If the author of the paper can persuade other physicians to overcome the collapse not only of hemorrhage, but also of cholera infantum, by saline injections, he will render valuable service and save many lives.

Dr. T. B. Greenley, in closing, said that the first time he used the normal salt solution this way was in a case of collapse following postpartum hemorrhage. It occurred to him that if he could by any means fill up the blood-vessels, he might overcome the collapse. He made the experiment of injecting the saline solution into the bowels; the patient soon afterward came out of the collapse and made a good recovery.

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*Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

PHYSIOLOGIC RESUSCITATION OF THE STILL-BORN.*

DANIEL LICHTY, M.D.
ROCKFORD, ILL.

The usual methods of resuscitation recommended and practiced are so illy applicable at the bedside, to the restoration of the still-born, and so often ineffectual, that the suggestions here given and employed during eight years of the usual obstetric service of the general practitioner are deemed worthy of presentation.

The bronchi, bronchioles, rings, alveoli, sera, epithelia, mucosa, capillaries, elastic connective-tissue and muscular fiber of the lungs form an aggregation of structure as interesting and complex, regardless of their nervous control, as any in the human body.

Bearing in mind that the lungs do not functionate at all as organs during intrauterine life, but simply vegetate through their nutritive channels; and that the rich and active plexus of vessels of the pulmonary circuit are not employed during this period; and that the resiliency of the pulmonary tissues has not yet been tested, nor have the chest muscles been used in the mechanism of respiration, it becomes more apparent that physiologic rather than mechanical methods should be sought and employed to induce function.

During fetal life the respiratory center is in physiologic desuetude, or in an apneic condition; but there remains unleashed a negative pressure-of-inspiration in the nerve-cells of this center which is an inherent or latent potentiality, which keeps up a physiologic, coordinated, rhythmic relation with the circulatory center through their inosculating branches as long as life exists. Fetal blood has a larger percentage of hemoglobin than the mother's, and has also a larger respiratory capacity than adult blood; hence there is a remarkable power of resisting asphyxia in newly-born animals that have never breathed[1]. This was noted as early as Haller's period, and has since been made a subject of further experiment by Buffon, Langollois, Rosenthal, Stokes, W. F. Edwards and others.

Animals that are born with their eyes shut, as dogs and cats, and which have at first very little animal heat, will show signs of life after complete submersion for more than a half-hour in warm media; on the contrary, if a hibernating animal is put in a temperature of about 10 F. below zero, it dies through a paralysis, or inhibition of the center of respiration; but when these same animals are enveloped in an atmosphere or medium of greater temperature than found in either at birth or at apnea, respiration is soon established[2], even to a degree of excessive depth and frequency. And again, Dr. Ackerman has stated that the frequency of respiration is caused by neither want of oxygen nor excess of carbon dioxid in the blood, but alone by the increase of temperature of the whole organism, or heat dyspnea, or what Dr. Isaac Ott calls polypnea.

That there is an anatomic and physiologic area or center in the medulla oblongata which is recognized as presiding over respiration is no longer a subject of doubt or discussion. Experiment has been often enough duplicated to prove that removal of or injury to the medulla oblongata, alone, at once stops all respiratory movements, even though all the muscles of the trunk concerned in respiration—and they are many—and their associated nerves be left entirely uninjured; or, if that smaller tract of the medulla whose limits are not as yet exactly defined, lying below the vasomotor center, between it and the calamus scriptorius, be crushed or removed, respiration ceases though every other part of the body be left intact; so near this is the inhibitory vagus center that it too is generally injured or irritated and the heart's beat arrested or impeded, instant death ensuing.

This very important portion of the nervous system was designated by Flourens, the "vital knot," or ganglion of life; it is now, I believe, generally recognized by physiologists as one of the respiratory centers[3].

The group of dynamics stored in these centers coordinating respiration, is very complex and of wide distribution, as evidenced in impending asphyxia, dyspnea or aroused respiration, when nearly all the muscles of the trunk are called into requisition, reinforced by the rigid extremities fixing the trunk as auxiliaries.

Isaac Ott's polypneic center seems so firmly established that its recognition in this connection confirms the practice to be recommended: he locates this center in the tuber cinereum, and demonstrates that external heat as an irritant to the cutaneous surface carries an excitant to the polypneic center which, acting as a reflex center, sends other impulses that are carried to the adjoining respiratory centers, causing rapid respiration; he asserts that heat is the best external stimulant to rouse the polypneic center—the center of respiration in cases of poisoning or drowning.

Then we have Christiani's expiration and inspiration centers, Martin and Booker's inspiration center in the posterior bodies of the corpora quadrigemina; and Ott's polypneic center; all these subsidiary ones are in the medullary center and through this depot exert their influence on respiratory movements; these subsidiary or subordinate centers are no doubt connected with each other and with the vital center by well-fixed and responsive nerve-paths. It would be a waste of time to rehearse the experiments made in this field of research[4], while the clinical evidence that confirms the existence of such a depot is not rare; and the interrelation of function, physiologic and pathologic, between this and the ganglia of the great sympathetic, or organic brain, adds strength to the position.

"We also know that many cases of head injury by accident, or during delivery at child-birth, appear to end fatally, owing to failure of the respiratory center; in these cases alternate heat and cold to the abdomen and chest tide the patient over this dangerous period and bring about an ultimate recovery."[5] There is no doubt that most of the cases of asphyxia neonatorum are caused by pressure on the occiput during emergence beneath the symphysis and are a traumatism as much as if occurring in an ordinary accident.

Every ultimate structure has its center and its periphery, whatever its shape; the nucleus, nucleoli, surrounding fluid and hyaline wall form an arrangement by which excitation of any part of its peripheral wall finds an active response at its center; the human organism is an aggregation of these mobile, plastic and responsive units of which the new-born is its most delicate expression; the dynamic forces given by the gestative impress are inherent in all the structures; it is our duty to recognize these anatomic structures and physiologic processes in the methods of the resuscitation of the still-born. We know that the syncope occurring in chloroform employed as an anesthetic, induces primary failure of the circulatory mechanism and secondary failure of the respiratory center; the latter fails to act not converting these bodies. So we come back to the former views as to biliousness and inactive liver, but we have a more scientific view as to what is meant and how the liver may be at fault. The essential point in the treatment is not one remedy, or single combination of remedies, but following out the plans of treatment indicated, which he had adopted with such success that he felt warranted in bringing it before the Section. In some cases, meats can be withdrawn and eggs substituted; he also recommended to his patients to use brown and particularly corn bread instead of white. In regard to the discussion about the red and the white meats, there is a difference independently of the question of the proteids. He considers the white meat more easily digestible. Where there is disturbance due to bacteria, it would be advisable not to use meat at all. In the laboratory we use meat broths for making cultures of virulent bacteria, and perhaps their use might favor such infection in the bowel.

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DISCUSSION.

Dr. J. M. Allen, Liberty, Mo., approved of the teaching of the paper, which was on a comparatively new subject. Not every physician is in a position to transfuse blood, but rectal injections of normal salt solution can be practiced by every one. The one great difficulty experienced is in getting the fluid to rise above the sigmoid flexure. His own plan has been to raise the hips of his patient by allowing him to lie across, and partly over, the bed, with his shoulders near the floor. By this expedient the injection is very easily introduced and retained. With the aid of ergot to constrict the tissues and strychnin to overcome the anemic condition of the brain, and the use of this method, he does not see that it is necessary to lose a single case of this character. Time is what is wanted, and only a short time, and this expedient keeps the patient up until the blood-vessels are again fully supplied with blood.

Dr. J. Tracy Melvin, Saguache, Colo.—In the treatment of cholera infantum, there is one fact which must impress itself on every practitioner, i. e., that the saline injection is the one remedy for the relief of genuine cholera infantum. There is generally too much time lost in trying other remedies. If the author of the paper can persuade other physicians to overcome the collapse not only of hemorrhage, but also of cholera infantum, by saline injections, he will render valuable service and save many lives.

Dr. T. B. Greenley, in closing, said that the first time he used the normal salt solution this way was in a case of collapse following postpartum hemorrhage. It occurred to him that if he could by any means fill up the blood-vessels, he might overcome the collapse. He made the experiment of injecting the saline solution into the bowels; the patient soon afterward came out of the collapse and made a good recovery.

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PHYSIOLOGIC RESUSCITATION OF THE STILL-BORN.*

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ROCKFORD, ILL.

The usual methods of resuscitation recommended and practiced are so illy applicable at the bedside, to the restoration of the still-born, and so often ineffectual, that the suggestions here given and employed during eight years of the usual obstetric service of the general practitioner are deemed worthy of presentation.

The bronchi, bronchioles, rings, alveoli, sera, epithelia, mucosa, capillaries, elastic connective-tissue and muscular fiber of the lungs form an aggregation of structure as interesting and complex, regardless of their nervous control, as any in the human body.

Bearing in mind that the lungs do not functionate at all as organs during intrauterine life, but simply vegetate through their nutritive channels; and that the rich and active plexus of vessels of the pulmonary circuit are not employed during this period; and that the resiliency of the pulmonary tissues has not yet been tested, nor have the chest muscles been used in the mechanism of respiration, it becomes more apparent that physiologic rather than mechanical methods should be sought and employed to induce function.

During fetal life the respiratory center is in physiologic desuetude, or in an apneic condition; but there remains unleashed a negative pressure-of-inspiration in the nerve-cells of this center which is an inherent or latent potentiality, which keeps up a physiologic, coordinated, rhythmic relation with the circulatory center through their inosculating branches as long as life exists. Fetal blood has a larger percentage of hemoglobin than the mother's, and has also a larger respiratory capacity than adult blood; hence there is a remarkable power of resisting asphyxia in newly-born animals that have never breathed[1]. This was noted as early as Haller's period, and has since been made a subject of further experiment by Buffon, Langollois, Rosenthal, Stokes, W. F. Edwards and others.

Animals that are born with their eyes shut, as dogs and cats, and which have at first very little animal heat, will show signs of life after complete submersion for more than a half-hour in warm media; on the contrary, if a hibernating animal is put in a temperature of about 10 F. below zero, it dies through a paralysis, or inhibition of the center of respiration; but when these same animals are enveloped in an atmosphere or medium of greater temperature than found in either at birth or at apnea, respiration is soon established[2], even to a degree of excessive depth and frequency. And again, Dr. Ackerman has stated that the frequency of respiration is caused by neither want of oxygen nor excess of carbon dioxid in the blood, but alone by the increase of temperature of the whole organism, or heat dyspnea, or what Dr. Isaac Ott calls polypnea.

That there is an anatomic and physiologic area or center in the medulla oblongata which is recognized as presiding over respiration is no longer a subject of doubt or discussion. Experiment has been often enough duplicated to prove that removal of or injury to the medulla oblongata, alone, at once stops all respiratory movements, even though all the muscles of the trunk concerned in respiration—and they are many—and their associated nerves be left entirely uninjured; or, if that smaller tract of the medulla whose limits are not as yet exactly defined, lying below the vasomotor center, between it and the calamus scriptorius, be crushed or removed, respiration ceases though every other part of the body be left intact; so near this is the inhibitory vagus center that it too is generally injured or irritated and the heart's beat arrested or impeded, instant death ensuing.

This very important portion of the nervous system was designated by Flourens, the "vital knot," or ganglion of life; it is now, I believe, generally recognized by physiologists as one of the respiratory centers[3].

The group of dynamics stored in these centers coordinating respiration, is very complex and of wide distribution, as evidenced in impending asphyxia, dyspnea or aroused respiration, when nearly all the muscles of the trunk are called into requisition, reinforced by the rigid extremities fixing the trunk as auxiliaries.

Isaac Ott's polypneic center seems so firmly established that its recognition in this connection confirms the practice to be recommended: he locates this center in the tuber cinereum, and demonstrates that external heat as an irritant to the cutaneous surface carries an excitant to the polypneic center which, acting as a reflex center, sends other impulses that are carried to the adjoining respiratory centers, causing rapid respiration; he asserts that heat is the best external stimulant to rouse the polypneic center—the center of respiration in cases of poisoning or drowning.

Then we have Christiani's expiration and inspiration centers, Martin and Booker's inspiration center in the posterior bodies of the corpora quadrigemina; and Ott's polypneic center; all these subsidiary ones are in the medullary center and through this depot exert their influence on respiratory movements; these subsidiary or subordinate centers are no doubt connected with each other and with the vital center by well-fixed and responsive nerve-paths. It would be a waste of time to rehearse the experiments made in this field of research[4], while the clinical evidence that confirms the existence of such a depot is not rare; and the interrelation of function, physiologic and pathologic, between this and the ganglia of the great sympathetic, or organic brain, adds strength to the position.

"We also know that many cases of head injury by accident, or during delivery at child-birth, appear to end fatally, owing to failure of the respiratory center; in these cases alternate heat and cold to the abdomen and chest tide the patient over this dangerous period and bring about an ultimate recovery."[5] There is no doubt that most of the cases of asphyxia neonatorum are caused by pressure on the occiput during emergence beneath the symphysis and are a traumatism as much as if occurring in an ordinary accident.

Every ultimate structure has its center and its periphery, whatever its shape; the nucleus, nucleoli, surrounding fluid and hyaline wall form an arrangement by which excitation of any part of its peripheral wall finds an active response at its center; the human organism is an aggregation of these mobile, plastic and responsive units of which the new-born is its most delicate expression; the dynamic forces given by the gestative impress are inherent in all the structures; it is our duty to recognize these anatomic structures and physiologic processes in the methods of the resuscitation of the still-born. We know that the syncope occurring in chloroform employed as an anesthetic, induces primary failure of the circulatory mechanism and secondary failure of the respiratory center; the latter fails to act not only because of the damage by the drug, but also because of the anemia of the medulla induced by the fall of arterial tension[6]. We also know how easily syncope can take place where there is general cerebellar anemia, and also where depletion has occurred from traumatism, accidental or surgical, whether attended by shock or not.

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*Presented to the Section on Physiology and Dietetics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Resuscitation in these cases is by prompt depression of the upper zone of the body to favor gravitation of the blood to the dependent cerebellar region and medullary center. Next in importance to this is the supplying of artificial heat externally; and the supplementary pressure of the capillaries by the subcutaneous, subperitoneal or rectal flushings with the "normal salt solution," and a further prone or inverted position to stimulate both the centers of circulation and respiration.

The same fundamental principles adapted to the emergency of resuscitation at the lying-in-bed in the private home or hospital wards will, it is believed, achieve more than the methods usually employed, with less sanguinary and manual exhibition —e. g., such as Schulze's swinging of the child's body through the air, Sylvester's mechanical methods, etc.

If due preparation has been made and anticipated, resuscitation provided for, a basin large enough and an abundance of warm water is at hand, in such a case submersion of the occiput of the collapsed child is easily done and one of the requirements met; but the reverse of what should be is usually done—the hips and legs are immersed, while the head and body are held erect, whereas the feet and body should be elevated and the occiput completely immersed. With a hand resting beneath, this can be done, taking care not to allow water to enter the nasal or oral aperture; then, with the ring and little finger of the left hand, we should elevate the middle body, and with the right hand, or by the aid of an assistant, let fall or dash a half-ounce or so of cold water upon the unsubmerged epigastrium, and soon the reward of a gasp is heard—the stimulus to future respiration. This maneuver can be repeated once in ten or fifteen seconds, an ample time while waiting for return of animation. Should success not come with the first attempt, draw forward the tongue and at the next impact of the cold water a reflex will have gone forward and upward that will surely do its work.

Sometimes in the hurried advance of labor and the emergence of the child, complete equipment is not at hand; then a pint of warm water in which to submerge the occiput is of use, with warm flannels for enveloping the elevated body, and the accoucheur can sit at the bedside treating the child while the placenta and cord are still functionating with the mother. If the cord is short, this still has an advantage over early severance of the funis and removing the child to a remote table for manipulation where observation of the mother is lost and the chances of the child not enhanced.

If, while this manipulation is going on, the placenta is expelled, its maternal surface can be exposed to the air for the blood-absorption of oxygen, according to Dr. S. Stringer's method; here, however, another vigil must be kept, lest passive retrograde circulation ensue and the child become exsanguinated by placental hemorrhage. This may seem an inactive way when compared with the spectacle of swinging a child through the air, or hastily calling for a table and assistants to perform Sylvester's or Hall's resuscitation methods; and it may not seem as simple as the attempts to inflate the lungs, which usually only inflate the stomach; which if there is any good in it is through the reflex at the solar ganglion. Physiologic methods are above mechanical, and recognition of this fact and practice on this line will bring results and recompense.

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Clinical Report.

CASE OF ECTOPIC PREGNANCY.

J. HENRY BARBAT, M.D.
SAN FRANCISCO.

The following case illustrates the necessity of giving apparently trivial symptoms due consideration, and acting without delay if we wish to save our patients from unnecessary and serious risk from hemorrhage. Mr. H. came to my office on Friday evening, Nov. 30, 1900, to ask about his wife's condition. He stated that she had pains and some tenderness in the lower abdomen and had been flowing very slightly every few days for ten days previously. Her menstruation had been regular, but at the last epoch, on November 2, she flowed only for one day, her usual time being three or four days. I called to see her the day following and in addition to the symptoms mentioned found that ten days previously she had had a sudden pain in the abdomen, which was followed by considerable tenderness. Examination showed a soft mass in Douglas' cul-de-sac which could not be definitely outlined on account of the tenderness, but which seemed to be more to the left of the uterus. The uterus was about the size of a two months' pregnancy, and felt soft and doughy. After the examination the pain and tenderness seemed to leave, and the patient stated that she felt perfectly well; but the symptoms were sufficiently characteristic to make me feel that an ectopic pregnancy existed, and that the sudden pain which had come on was due to a slight hemorrhage from a rupture of the sac. An immediate operation was advised, and done on the morning of December 30. On opening the abdomen no blood was noticed, but a sponge passed down into the bottom of the pelvis was saturated with dark fluid-blood, showing that hemorrhage had taken place. The left side was examined first and the ovary found enlarged. This was cut into and proved to be a corpus luteum of pregnancy; the tube was normal. The right tube was enlarged at its distal end to about the size of an egg. and had two patches of lymph adherent on opposite sides. The ovary was normal. When the lymph was removed, the points of rupture were disclosed, and bled profusely. The tube was removed close up to the enlargement, leaving fully 2 inches of normal tube; the cut end was split for 1/4 of an inch and the mucosa sutured to the peritoneum. The specimen proved to be a six weeks' pregnancy. The patient made an uninterrupted recovery, as we usually find in all cases which are operated on before severe hemorrhage has taken place.

The case is of interest on account of the meager symptoms and the fact that the ovum which was extruded from the left ovary was fertilized in the right tube. Delay would certainly have resulted in further hemorrhages, with possibly fatal result.

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SURGERY OF THE NINETEENTH CENTURY.

About twenty years ago one of the most celebrated surgeons in London made a public address in which he stated that surgery had reached its limits. To-day one of the most famous surgeons of this country announces that the birth of modern surgery dates back barely a quarter of a century.

W. W. Keen, M.D., LL.D., ex-president of the American Medical Association, in his critical survey of the "Progress of Surgery,"[1] traces in broad lines the effect of the two great discoveries in surgery—anesthesia and antisepsis—to their individual results in each branch of surgery; and shows what few surgeons themselves realize how vastly the proportion of human suffering has been lessened, and how greatly human life has been lengthened by the appliances of these discoveries. The desire to bring relief to suffering is too widely human to permit of a narrow national pride, but it can not, nevertheless, fail to be an incentive to American surgeons to remember that some of the most brilliant achievements have come from their fellow countrymen.

After vaccination, which event illumined the history of medicine at the close of the eighteenth century, the most important discovery was that of anesthesia. On Oct. 16, 1846, Dr. John C. Warren first performed a major surgical operation without inflicting the slightest pain. Ether was for the first time administered in the Massachusetts General Hospital, and the very sponge which was then used is still a precious trophy of that hospital. The news of the discovery spread like wild-fire over the whole civilized world, revolutionizing the methods of surgery. Prior to that time an operation was attended with horrors that neither patient nor surgeon to-day can conceive. Only the most heroic would submit, and rapidity was the chiefest recommendation that a surgeon could have. With the freedom from pain has come the modern deliberate, careful, painstaking operations, involving minute dissections and the greatest accuracy where a single stroke of the knife may mean life or death.

It is interesting to recall the rapidity with which the number of patients increased. In the five years preceding the discovery of ether, only 184 persons were willing to be operated on in the Massachusetts General Hospital, so that the students and surgeons were limited to an experience of about three operations each month. In the five years following the introduction of ether there were some eight or nine operations a month; while last year, in the same institution, there were more than 3700 performed.

The discovery of chloroform, by Sir James Y. Simpson, of Edinburgh, in 1847, and the use of local anesthesia during the last few years, has made a surgical operation less painful than a mild attack of illness. Spinal anesthesia, which has been practiced only during the last two years, will probably never take the place of chloroform or ether. Dr. Keen hopes, however, that with the discovery of new chemical compounds the twentieth century will produce the ideal anesthetic, one which will abolish pain and consciousness without danger to life.

Although pain during an operation was completely abolished, yet, as the older surgeons of the country well know, the after-suffering from fever, and the constantly discharging wounds, and the mortality from blood-poisoning, erysipelas, tetanus, and gangrene were as great as ever.

The standard of successful operations has so changed that whereas thirty years ago, before the discovery of antisepsis, when in rare cases a surgeon obtained a primary union without a drop of pus, without fever and with but little suffering, it was considered a marvelous achievement, now it is precisely reversed, and the surgeon who does not get primary union without a drop of pus, with no fever and with little suffering, asks himself: What was the fault with my technique? Dr. Keen says, in a panegyric of praise for the discoverer of antisepsis, that when the International Congress of Berlin, and the British Medical Association in Montreal, welcomed Lord Lister with cheer after cheer, it was but a feeble expression of a gratitude that no words could express.

Lord Lister's discovery was but the beginning of the work which laboratory investigation has furthered. Bacteriologic research has been of as great import to surgery as to medicine; and the discoveries, especially along the line of wound infection, have led to the technique of the modern operation as regards instruments, care of the hands and dressings.

Among the discoveries that American surgeons are proud to attribute to their countrymen, may be mentioned those in surgery of gunshot wounds, the most astonishing record being, perhaps, that of Flührer of New York, who reported a case where the ball entered at the forehead and traversed the entire brain, yet the patient recovered.

Willard Parker of New York was the first to make the profession listen to him when he urged that abscesses appearing above the right groin should be operated on and the patient's life saved. His operation for appendicitis, which has arisen to such prominence, has saved the majority of patients who thirty years ago would have died of localized peritonitis. Until 1885 it would have been thought fatal to operate on perforating ulcer of the stomach. In an inaugural dissertation by Tinker of Philadelphia, 232 cases of such perforating ulcer were reported, of which 123 recovered after operation, whereas formerly the mortality of the disease was 100 per cent. The operation of ovariotomy had its rise in America. Ephraim McDowell, of Kentucky, in 1809, was the first to perform it, and Washington L. Atlee, of Philadelphia, and his brother, were the ones to place it on a firm foundation. Their mortality was about one out of two; but to-day, owing to the improvement introduced by antiseptic methods, the death-rate is seldom over 3 per cent.

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[1] N. Y. Sun, Feb. 3.

An incidental but very important cause of the advance of surgery has been the increase in journalism and the formation of societies. Every successful operation along new lines is immediately reported, and its technique is spread abroad, calling forth comments and improvements from other surgeons, so that by mutual co-operation the skill of American surgeons has reached a very high rank.

Almost as the last word of the century, on the subject of surgery, was being said, the Roentgen ray appeared, illuminating the hidden parts of the human frame and opening a new and undreamed of method of diagnosis. So in the light of such an unexpected discovery we do not hesitate to hope, with Dr. Keen, that the surgery of the twentieth century may as completely outshine the surgery of to-day as that of to-day outshone that of thirty years ago.

ACUTE POST-OPERATIVE DILATATION OF THE STOMACH PRODUCED BY THE SUPERIOR MESENTERIC ARTERY COMPRESSING THE DUODENUM.

Acute dilatation of the stomach following operations may become the cause of death. Referred by some to central or peripheral nervous disturbances, by others to muscular paralysis and to the influence of the anesthetic, the observations of Kundrat, Schnitzler, Albrecht, and P. Müller show that in many such cases it undoubtedly concerns compression of the duodenum at the duodeno-jejunal junction by the superior mesenteric artery, as described by Rokitansky as long ago as 1845. Albrecht collected 19 cases of this kind from the literature, six of them developing after narcosis. P. Müller[1] refers to five additional cases. He describes two typical new ones with autopsy, and two others in which therapeutic measures appear to have been successful in saving life. The post-operative dilatation may follow operations of any nature, but occurs most frequently after laparotomy. The symptoms may set in immediately after the operation and, unless overcome, they lead to death in from two to five days; very rarely the onset takes place some days after the narcosis. The predominant symptom is profuse vomiting of fluid mixed with bile, but without feculent character. The abdomen is at first usually not distended, and commonly there is no tenderness; thirst is marked. Because the intestinal canal is usually empty there are no passages and no flatus. These and other symptoms are, of course, not diagnostic of any one condition, but add now the presence of a dilated stomach—and dilatation may be readily made out by the usual methods—and certainly the symptom-complex becomes very significant. A brief consideration of the consequences of duodenal occlusion below the biliary papilla will explain the symptoms. The post-mortem findings are said to be typical: great dilatation of the stomach and duodenum, the superior mesenteric artery being tense and compressing the duodenum, but without producing distinct circulatory disturbances; the empty small intestine is always found in the pelvis, the mesentery being stretched. In Müller's cases the gastro-duodenal contents had been forced into the gall-bladder and up into the liver, whose function was thus suspended. Experiments have shown that traction on the mesentery, toward the pelvis, causes occlusion of the duodenum, especially in thin persons. When the small intestines sink down into the pelvis, the mesentery is folded together like a fan, and its length is probably the decisive factor in causing compression, the shorter the mesentery the greater the danger. And as the dilatation of the stomach increases the small intestine is hindered from leaving the pelvis. The complicated anatomical and mechanical factors that enter into this *circulus vitiosus* probably merit further experimental study.

Up to this time the diagnosis of duodenal occlusion under these circumstances has been made three times during life, first by Schnitzler, while Müller now describes two cases. In all three the threatening symptoms were relieved quite promptly and completely by placing the patient in the prone position with elevation of the pelvis with or without emptying and washing out the stomach. Undoubtedly further experience will lead to the establishment of more definite rules for treatment which, naturally, in some cases may have to be operative. The opinion has been ventured that post-operative duodenal compression is not so very rare; spontaneous cure may take place in many cases, in others relief follows lavage of the stomach, in still others the symptoms are attributed to the effects of the anesthetic, and perhaps some are regarded as instances of peritonitis. Suffice it to say that long persistence of post-operative vomiting should direct attention to duodenal occlusion.

THE DEFINITION OF THE "PRACTICE OF MEDICINE."

The essential part of any medical practice act, apart from its enacting clause and the penalties, is the definition of the phrase, "practice of medicine." Ambiguity or incompleteness in this nullifies or renders inefficient the law itself, and some of the measures enacted have suffered from this defect. A bill is now before the New York legislature to amend the medical practice law by adding the definition, which it seems was lacking, and the strictness of the definition attempted will be manifest. The amendment, as reported, reads: "Any person shall be regarded as practicing medicine within the meaning of the act, who shall prescribe, direct, recommend, or advise, for the use of any person, any remedy or agent whatsoever, whether with or without the use of any medicine, drug, instrument or other appliance, for the treatment, relief or cure of any wound, fracture or bodily injury, infirmity, physical or mental, or other defect or disease. This article shall not be construed as prohibiting the service of any person in an emergency, or the domestic administration of family remedies, nor shall it be construed to affect commissioned officers serving in the United States army, navy, or marine-hospital service, while so commissioned, etc."

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[1] Deutsche Zeitschr. f. Chir., 1900, lvi, 487-511.

If we were to criticise this definition, we should say it was too elaborate and comprehensive on the one hand; even the simplest friendly advice in regard to health could be construed as unlawful under its provisions. On the other hand, any more liberal construction might open the way to a laxity that would seriously impair the usefulness of the law. It is not generally advisable to enact laws that it is understood are in the whole or in part likely to pass into innocuous desuetude, to use an often quoted term. The definition of the Georgia medical practice act meets this difficulty in one way and appears in most respects quite satisfactory. It says, *Sec. 1478:* "Practice Medicine Defined.—For the purpose of this chapter, the words 'practice medicine' shall mean to suggest, recommend, prescribe or direct, for the use of any person, any drug, medicine, appliance, apparatus, or other agency, whether material or not material, for the cure, relief, or palliation of any ailment or disease, of the mind or body, or for the cure or relief of any wound, fracture or other bodily injury or any deformity, after having received or with the intent of receiving therefrom, whether directly or indirectly, any bonus, gift or compensation." This seems to cover very nearly every demand and, by inserting the element of compensation in the definition, is free from the objection above noted. Whether or not it leaves a chance for some lawyer to make a hole in the law, it might be presumption to say, but it hardly appears so to a non-legal mind. After all, it is an open question whether the simpler definition of the Nebraska law is not better than these more elaborate attempts and just as effective: "Any person shall be regarded as practicing medicine within the meaning of this act who shall operate or profess to heal or prescribe or otherwise treat any physical or mental ailment of another." The supreme court of that state has twice passed upon this law, once when it decided that the practice of a "Christian scientist" came within the definition, and recently,[1] when it decided that the practice of so-called osteopathy also was within the meaning of the act. The courts could hardly construe this as covering any simple friendly counsel as quickly as they might the more particularized definition of the New York law, while it is nevertheless complete enough to cover all bona-fide attempts at practicing medicine. It would, moreover, it seems to us, be less likely to stir up opposition and attempts to destroy the law through the courts, than would the more particularized definition proposed in New York. A law that too openly tempts an interpretation that it forbids the application of a porous plaster or the fitting of a crutch seems like a *reductio ad absurdum* to the average layman, and may easily be so taken by a judge or jury. The wisdom of the serpent and the harmlessness of the dove are especially needed in framing laws that strike so many interests as do those directed against quackery.

THE INFLUENCE OF SYPHILIS UPON THE MORTALITY OF THE LIFE-INSURED.

The opinion that syphilis plays an important part in the production of chronic diseases of internal organs, largely abandoned through the influence of Hunter, came to the fore once more through the work of Virchow in 1858, "On the Nature of Constitutional Syphilitic Affections." Since then the importance of syphilis has become recognized more and more. Specific diseases of the bones, the nervous system, the liver, and other organs, have been studied carefully. Heubner's work in 1874, "On the Luetic Diseases of the Cerebral Arteries," has been of signal value, because it laid the foundation for the study of syphilitic disease of the vessels in general and the various serious pathological conditions resulting therefrom in the brain, the heart, and the large vessels. We know now only too well that syphilitic meningitis and cerebral gummas, softening of the brain, and coronary disease may develop years after the infection. General paresis, arteriosclerosis and aneurysm are also regarded as having often a syphilitic basis, general paresis in the opinion of many being always a luetic result. In few diseases has the *practical* value of pathological anatomy received better illustration than in the case of syphilis. Deprived of the aid obtainable from the demonstration in a suspected lesion of the specific etiologic agent, investigators have been forced to rely upon the character of the anatomical changes in order to differentiate syphilitic from other and often strikingly similar lesions. And it is not impossible that on account of the natural limitations of this method the knowledge of luetic manifestations may have suffered. Nevertheless, a mass of information has accumulated and by following certain broad lines of inquiry it is generally possible to reach fairly definite conclusions in regard to some of the questions here broached.

Thus Runeberg,[1] of Helsingfors, studied the influence of syphilis upon the death-rate of the insured in a company whose applications, death-certificates, etc., he could use for this purpose; information was secured also from the physicians and the relatives, especially in cases of death from general paralysis. Between 1875 and 1897 there were 734 deaths, 11.4 per cent. of which

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[1] JOURNAL A. M. A., xxxv, p. 1578.

[1] Deutsches Med. Woch., 1900, 18-20.

—or 84—are referred to syphilis, 21.3 per cent. to tuberculosis, and 10 per cent. to pneumonia. There were 22 general paralytics among the 84 cases referred to syphilis, and in 16 of these a definite history of syphilitic infection was obtained; 31 of the 84 succumbed to heart disease; 21 to brain and cord diseases; and 3 to chronic nephritis, etc. In most of these cases syphilitic infection could be traced directly. In 69 cases the period between infection and death averaged 20.2 years, the average age of the whole 84 being 43.4 years, and the average time between the issuance of the policy and death 8.1 years. The same company, during the period of 1874 till 1895, accepted 11,359 applicants; of these 619 acknowledged syphilis, and the deaths of this group were 78, or 12.6 per cent., while of the remainder, 656, or 6.1 per cent., died. Runeberg is of the opinion that at least 25 per cent. of deaths from heart disease, hemorrhage into the brain, and cerebral softening in persons under 50 without distinct specific history should be placed at the door of syphilis. These figures, although small, throw a strong light upon syphilis as an etiologic factor in fatal diseases of the vital organs. There is no question in regard to accuracy and careful handling of the figures. The articles also contain much of interest to the experts in insurance.

INFLUENCE OF INANITION ON THE INFECTION WITH *THE COLON BACILLUS.*

The many and various factors that favor or oppose infections are imperfectly understood. The complexity of many processes that enter into the consideration of such questions makes it difficult to give any radical explanation of the various phenomena, clinical and experimental, observed in this interesting field. Roger and Josue[1] starved rabbits for five to seven days and then allowed them to feed for seven to eleven days, when they were infected with the colon bacillus. The animals that had fasted withstood infection much better than the controls. Here it appears that the resistance to infection is rapidly increased after fasting, increased above that of the average normal animal. Conditions similar to this may explain the apparently contradictory results often seen in the study of the reaction of animals to infections. The authors also suggest that religious fasts, undertaken as spiritual discipline, for similar reasons may be of hygienic importance considering the circumstances under which voluntary abstinence from food is often practised.

THE APPENDIX VERMIFORMIS.

The generally accepted teaching and popular belief that the appendix is simply an evolutionary remnant appears to be contradicted to some extent by some recent researches. At the meeting of the British Royal Society, December 3, last, Dr. R. J. A. Berry reported that, from a microscopic study of certain vertebrates—rabbit, cat, pigeon—he found a marked accumulation of lymphoid tissue at the cecal apex, reaching its maximum development about one week after birth. In a general way he found the presence of this sort of tissue the characteristic feature of this region, and in the vertebrate kingdom generally, he stated that such an accumulation of lymphoid tissue represented the appendix. As the scale is ascended toward the higher vertebrates, this becomes differentiated into a special organ, the appendix, which is therefore not a mere vestigial structure, but a specialized part of the alimentary canal. If this be the case, however, it does not necessarily follow, from what he tells us, that the appendix in man is not a vestigial remnant, though his reported findings cast a little cloud in its title as such. It is just possible that even in man it may yet have a slight useful function, but one that is badly overweighted by the occasional disadvantages from its presence in the organism.

HAVANA'S HEALTH FOR 1900.

The report of the chief sanitary officer of Havana, Cuba, Mayor W. C. Gorgas, for the year 1900, contains some interesting data, and shows a very creditable state of affairs from a health point of view. The annual death-rate is the least that has been reported for the decade, the lowest previous one, that for 1893, having been 38.68 per thousand, while for 1900 it was only 24.4, which is not a high figure for a tropical city. The existence of yellow fever to some extent was to be expected, and during the past year it found specially favorable conditions for its spread among the 24,000 immigrants, most of whom were non-immune. Still, it was kept well in hand; of the 920 Spaniards stricken, the percentage of deaths from the disease was only 26.3, while among the 235 Americans it was only a little more than one-half as great. The epidemic, if it can be called by that name in a city that is rarely free from the disease, was not a formidable one, and evidently had but a slight influence on the general mortality ratio. Tuberculosis in Havana was nearly four times as fatal as yellow fever, and caused over one-seventh of the total mortality, thus showing that it is as little controllable there as in more temperate climates. Another disease, fortunately rare elsewhere—tetanus—caused more than half as many deaths as yellow fever, and is responsible for over 3 per cent. of the total mortality. The report is a most creditable showing of the sanitary management of very difficult problems under the military control of the United States.

THE PRESS AND QUACKERY.

The public press can do much to show, in their true colors, the characters of the various charlatans who prey upon the public. Often, however, the press is subsidized in an advertising way, though occasionally we find a publication rising above this. During the past few weeks a "divine healer" has located in Cincinnati, Ohio, with a corps of assistants, the latter of whom seem to have been injected with the "divine fluid" by the head "healer," for when trade was brisk or the exigencies of weather such that the "doctor" demurred about going out, one of the assistants was sent to answer calls, and it is said at the rate of $5 a visit. The *Cincinnati Post,* in order to investigate the claims of the "healers," sent a reporter with instructions to feign some illness in order to gain admittance, but as every one who applies is "treated" for a "trifling consideration," this proved to be a matter of very little difficulty. The experiences of the reporter have been published in detail, and among other things, indicate that the chief assistant has followed, at one time or another, almost every known profession, his immediately previous efforts having been directed to the stage, in the way of illustrated songs. After exposing a number of so-called cures, the reporter states that, on leaving the institution, she was asked for a testimonial, which the *Post* published, as follows: "To Dr. . . . . Having entered the . . . . . Institute in perfect physical condition, without an ache or pain, the managers of the institution were kind enough to supply me with a varied and choice assortment of ailments for which I paid the very reasonable sum of $21. I can recommend your heelers to all seeking a fine collection of diseases at a nominal price. Yours for health, J. M. P." The entire matter was treated in a half serious, half cynical style that will undoubtedly appeal more to the public at large than a library of abuse, and it is to be hoped that other newspapers will be stimulated to efforts along the same line. At any rate the profession of medicine owes hearty thanks to the *Post* for its aid, and the laudable attempt to purge the city of the human sharks who have been so long allowed to gorge themselves upon their innocent and gullible victims.

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[1] La Semaine Médicale, 1900, No. 29.

PROPER AND IMPROPER METHODS OF CLEANING PUBLIC BUILDINGS AND CONVEYANCES.

Often the more or less elaborate process of cleaning of rooms and conveyances becomes a means of dissemination of bacteria-laden dust rather than of removal of dust and dirt. In many cases one may very readily convince himself that the cleaning merely disturbs the accumulated dust, which soon settles down again upon the very articles and floor just dusted. This improper method of cleaning is seen only too often in public buildings and public conveyances as well as in private houses. The question has been subjected to a scientific inquiry by Elmer W. Firth, sanitary engineer, who conducted a series of experiments upon micro-organisms in the air of public buildings and conveyances as the result of improper methods of cleaning.[1] He points out that correct cleaning is based on certain principles, among which may be mentioned the following: Absorbent floor materials should not be allowed to conceal dust and dirt; non-absorbent flooring should be used in public places; this means the removal of carpets from churches and theaters and of fiber mats from cars and boats; linoleum and rubber mats may be substituted. Damp sawdust on floors is useful for retaining some of the dust raised in sweeping. Dust and organisms suspended in the air after sweeping settle more quickly in a closed room than in a ventilated one. Strong currents may keep organisms in suspension for a long time unless the draught passes directly through the room. For these reasons sweeping and dusting in public places should be done at such times as to allow settlement of the dust before occupancy. Dry sweeping and dusting are condemnable and should never be allowed in the presence of numbers of people. Absolute removal of the solid impurities of the air that settle in all buildings, and of the dust after sweeping, is best accomplished by the use of damp cloths, and frequent mopping and washing are necessary. As dampness is to be avoided, wooden flooring should be substituted with stone or tile. The material accumulated in cleaning should be destroyed or disposed of in such a way that "it will not be merely a nuisance transferred to another place," which is the great objection to many methods of cleaning.

THE DUTY OF THE PHYSICIAN TO THE STATE.

While the political atmosphere in some of our large American cities and states is not of the most respirable character, there are indications that the majesty of the law is not held at too low an estimate. Every now and then evidence is afforded that the courts are not inclined to look upon the acts of the medical man with the liberality and consideration to which his profession would seem to entitle him. Only recently a judge in an eastern city, in remitting the fine imposed upon a physician for contempt of court, because he was late in answering a subpena, by reason of attendance on a patient seriously ill with diphtheria, is quoted as saying that "it were better that the patient should die than that the Commonwealth's witnesses should place themselves in contempt of court." We are sure this new judgment will not receive universal acceptance, either by the bench, the bar, the medical profession or the laity. The physician's occupation is not a business in the ordinary sense of the word, and it would bode ill for the entire fabric of society if, in any case of gravity, particularly in the existence of an emergency, he were compelled to yield the welfare of his patient to his obligations to the state. The state is at best but the aggregation of its citizens, and it has no right, by arbitrary methods, to jeopardize the life of a single one of its constituents. On the contrary, there is an indissoluble bond between the two, each of which must recognize the prerogatives and the privileges, not less than the duties and the obligations of the other. We think it will by common consent be agreed that the first obligation of the physician is to save life and relieve suffering. Only after he has fulfilled this requisition can he devote himself to his duties to the state. That this is sound doctrine, not alone in theory, but likewise in practice, the experience of the centuries amply demonstrates. But it is by no means implied that the physician is justified in any degree in neglecting or shirking his obligations to the state. On the contrary, these are not less incumbent on him than on other citizens; but when it comes to the question of whether he shall jeopardize the welfare of his patient to obey the summons of the court, we are sure that there will ever be but one decision.

TEACHING AND DIAGNOSIS OF TYPHOID FEVER.

In his recent paper before the Philadelphia County Medical Society, "On Perforation and Perforative Peritonitis in Typhoid Fever,"[1] Osler makes a few remarks concerning certain aspects of the treatment of typhoid fever that should receive the respectful attention of the medical profession. In order that the death-rate from typhoid fever may reach the lowest possible point a practical, first-hand knowledge of the disease in all its manifestations is requisite. The senior students should, he urges, see typhoid patients day by day and watch their progress from week to week. That this is not done very generally is known only too well. That there are cases enough in the large cities to provide instruction of this sort is not to be doubted; but such instruction is not given because the courses are not so arranged and because the medical schools have not proper control of the hospital facilities. Brilliant lectures on typhoid fever are given, recitations are held, books are read, and cases are shown in the amphitheater, but typhoid fever is not learned satisfactorily in that way. And this is shown by the experience in the last war. "The worst indictment," says Osler, "ever brought against the medical schools of this country is contained in the report by Reed, Vaughan, and Shakespeare on the prevalence of typhoid fever during the Spanish-American war. Shades of W. W. Gerhard and of Austin Flint! The young doctors, to whom were entrusted scores of valuable lives, had practically not gotten beyond the nosology of Rush. Of the total number of 20,000 cases of typhoid fever, only about 50 per cent. were diagnosed by the regimental or hospital surgeons." In 80 of 85 cases sent to civil hospitals in Baltimore the diagnosis was changed from malaria to typhoid. Similar instances occurred elsewhere. The authors of the report mentioned venture the statement that the army surgeons probably did better than the average physician in his private practice. Whatever the truth may be, this is but a lame and impotent apology that emphasizes still more the need for different and better methods of teaching. Men like Osler render the profession great service by courageously speaking their minds on topics of such basal import as this.

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[1] Studies from the Dept. of Pathology, College of Physicians and Surgeons, Columbia Univ., N. Y., 1899-1900.

[1] Phila. Med. Jour., 1901, Jan. 19, p. 116; The Journal A. M. A., p. 346.

Medical News.

ALABAMA.

Smallpox is spreading in and around Huntsville. Cases have been reported in the city, West Huntsville, Dallas, Meridianville and Madison.

Dr. Thomas W. Ayers, Anniston, has given up his practice and will start with his family for China, sailing from San Francisco, March 15. He goes out as a medical missionary under the auspices of the Southern Baptist Board, and will be stationed at Hwang Hi-en, North China.

Hillman Hospital, Birmingham, has appointed the follow medical staff: Medical—Drs. Cunningham Wilson, Thomas D. Parke, Baxter Rittenberry, John W. Barclay, Charles Brenand, and Robert V. Mobley; surgical—Drs. Benjamin G. Copeland, William P. McAdory, Charles Davis, William H. Wilder, Edward P. Riggs, and Lewis C. Morris.

Opposition to discrimination in favor of Mobile Medical College is the cry of the State Medical Association and of the Jefferson County Medical Society. They consider that to allow the graduates of the Mobile Medical College to practice medicine in Alabama without undergoing the usual examinations before the state or county boards would be unfair to the Birmingham Medical College and the graduates of the leading medical colleges of the North and East, and would lower the standard of the profession in the state.

CALIFORNIA.

Visalia has appointed a new board of health, of which Dr. F. A. Combs is president.

San Francisco's mortality in December was the largest in its history—680 deaths. A large percentage were from la grippe, or pneumonia, exhaustion, etc., following that disease.

Visalia Sanatorium, which was not yet completed, but was to have been opened February 15 by Drs. Thomas O. McSwain and William W. Cross, Jr., was destroyed by fire January 25.

Diphtheria has broken out in the City and County Hospital, San Francisco. Two nurses, one physician and one inmate have the disease, and a number of patients with sore throats are isolated and under suspicion.

Clara Barton Hospital, San Francisco, has been incorporated by Drs. J. Henry Barbat, George H. Evans, Edward G. Frisbie, Charles A. Dozier, Elmer E. Kelly, Henry B. A. Kugeler, and Frank B. Carpenter. A lot for the new institution has been selected and a building to cost not less than $50,000 will be erected.

DISTRICT OF COLUMBIA.

The remains of Major John G. Davis, surgeon, U. S. V., who died in Manila, November 1, were buried with military honors in the National Cemetery, Arlington, January 16.

Dr. Alonzo B. Richardson, Washington, superintendent of the Government Hospital for the Insane, has been elected to the chair of mental diseases in the medical department of the Columbian University.

The Episcopal Eye, Ear and Throat Hospital, Washington, recently elected Dr. E. Oliver Belt secretary of its board of governors, re-elected the assistant and attending physicians, and also elected Dr. John B. Nichols pathologist.

Health office changes at Washington include the withdrawal of Dr. Lewis J. Battle, inspector of smallpox service; the transfer of Dr. Creed W. Childs to the smallpox inspection and the assignment of Dr. Uriah J. Daniels to duty as physician to the poor.

The Indigent Insane.—Providing a bill submitted to Congress be passed, this class will hereafter be admitted to the Government Hospital for the Insane, on petition of the Commissioners of the District filed in its supreme court, which court shall issue a writ *de lunatico inquirendo*, whereupon the marshall shall impanel a jury from the jurors in attendance on the criminal courts, who shall perform this duty in addition to their duties in the criminal court.

ILLINOIS.

Dr. Edward Bowe, Jacksonville, was appointed county physician of Morgan County, January 25.

Dr. James Selkirk has been elected to the Aurora Hospital board, in place of Miss Nellie Higgins.

Dr. Elnathan P. Hathaway, Ottawa, has been appointed a member of the board of pension examiners, to succeed Dr. J. J. Taylor.

Bills have been introduced in the legislature appropriating $383,100 for the Illinois Northern Hospital for the Insane at Elgin, and $490,600 for the Illinois Southern Hospital for the Insane at Anna.

Silver Cross Hospital, Joliet, is raising the $4000 required to make John Lambert's offer of $500 operative. This is expected to be sufficient to pay all indebtedness and place the institution on an independent basis.

Chicago.

Dr. Christian Fenger has gone to the Gulf Coast for a month.

Dr. Nicholas Senn has returned from his vacation trip to Central America.

Lull in Smallpox.—The grave apprehensions caused by the discovery of thirteen cases of smallpox in one day have not been realized, and the situation at present is reassuring, no new case having been detected during the first four days of this week. The record of no case among the recently vaccinated is still unbroken, and this lesson, upon which too much stress can not be laid, is causing a resort to vaccination on a scale that is the best assurance against any serious epidemic spread of the disease.

Public Health Conditions.—As indicated by the bills of mortality the public health conditions maintain the improvement noted in the bulletin of the health department of two weeks ago. There were 32 fewer deaths reported for the week ended February 2 than for the week before, and 54 less than for the corresponding week of 1900. The death-rate among the aged, however, still continues high—23 per cent. of the total, as against a normal 20 per cent. of those over 60 years of age, and this notwithstanding a reduction in such diseases as apoplexy, Bright's disease, consumption and nervous diseases. Deaths from uncomplicated influenza have remained nearly stationary in number for a month, and the epidemic has probably reached its height, although its complications will continue to be manifest in the new crop of pneumonia and bronchitis which will follow the snow storm of February 2 and 3.

Attending Staff of Cook County Hospital.—The organization of the attending staff of the hospital for the ensuing term of two years, occurred January 31. Dr. Denslow Lewis was re-elected president and Dr. L. Blake Baldwin secretary. The executive committee consists of: Dr. Arthur R. Edwards, chairman; Dr. Charles F. Swan, secretary, and Drs. William E. Quine, James B. Herrick, John P. Webster, Orville W. MacKellar, Mary Jeannette Kearsley and the president and secretary ex-officio. The staff is constituted as follows: Surgeons, Drs. Denslow Lewis, Charles F. Swan, Leonard St. John, Weller Van Hook, C. Pruyn Stringfield, William E. Schroeder, Wladyslaw A. Kuflewski, John B. Murphy, Thomas A. Davis, John Leeming, Frederick S. Hartman, Edward L. Moorhead, Albert I. Bouffleur, Charles Davison, Samuel L. Weber, John W. Tope of Oak Park, Daniel H. Williams, Aime P. Heineck, Francis W. McNamara, Orville W. MacKellar, Daniel N. Eisendrath, Frank R. Byrnes, Gerhardt S. Seim of Blue Island, John P. Webster, A. E. Halstead, Herbert R. Hammond, Robert A. Letourneau, Thomas J. Conley, Edward H. Lee, and Mary Jeannette Kearsley; physicians, Drs. Frank Billings, Arthur R. Edwards, James B. Herrick, Charles C. O'Byrne, E. Fletcher Ingals, William E. Quine, B. McPherson Linnell, John A. Robison, Florence W. Hunt, Thomas A. Noble, J. H. Dolamore, Robert H. Babcock, Robert B. Preble and Arthur E. Price; pathologists, Drs. Ludvig Hektoen and William A. Evans; dermatologists, Drs. L. Blake Baldwin and Maurice B. Sincere; obstetricians, Drs. Effie L. Lobdell and Frank B. Earle; diseases of children, Drs. Frank S. Churchill, Josephine A. Jackson, William J. Butler and Isaac A. Abt; ophthalmologists, Drs. Allen T. Haight and J. G. Huizinga, and nervous diseases, Drs. Sanger Brown and Daniel R. Brower.

KENTUCKY.

Paduca's Board of Health met for reorganization January 17 and elected Dr. W. T. Graves, president.

Dr. Edward N. Simpson, Milldale, has been appointed physician of Kenton County, in place of Dr. William F. Cook, deceased.

The decision of Judge Toney, against "Dr." Harry Nelson, in a suit to compel the State Board of Health to license him to practice osteopathy, has been reversed by the Court of Appeals.

Reporting Smallpox.—The Board of Health of Lexington has adopted resolutions to the effect that, in the future, regular weekly statements of the presence of smallpox shall be published over the signature of the president of the board, and that a warrant shall be issued against any physician failing to report a suspicious case.

LOUISIANA.

Dr. Oscar Czarnowski, New Orleans, was robbed of jewelry, valued at $1000, by burglars, January 22.

Dr. William P. Brewer, New Orleans, has been elected president of the Association of the Army of Northern Virginia, and Dr. Felix Formento, also of New Orleans, secretary.

The suit involving the position of health officer of New Iberia has been decided in favor of Dr. William J. Emmer, who will continue as health officer pending appeal and injunction.

The Alumni Association of Tulane University, New Orleans, January 19, elected Drs. Frederick W. Parham and O. L. Porthier to represent the medical department on the executive committee during the ensuing year.

MASSACHUSETTS.

Two Everett physicians were fined $50 each, January 24, for neglecting to report a case of contagious disease to the local board of health.

The new schedule agreed to by the physicians of Gardner became effective Feburary 1, but before that time one of the signers of the agreement withdrew his name, as he said, in justice to a number of his patients and as a matter of business.

The mortality of Worcester for 1900 was 2159, equivalent to an annual death-rate of 18.77 per 1000. The births registered numbered 2223. Lung and throat diseases caused 694 deaths, or 31.21 per cent of the total mortality, while tuberculosis is reported to be the cause of 281 deaths.

MICHIGAN.

The medical staff of St. Joseph's sanatorium, Mt. Clemens, has been organized with Dr. Joseph M. Croman as secretary.

A bill has been introduced in the house of representatives providing for an appropriation of $200,000 for a state sanatorium for the care and treatment of nervous diseases.

Attorney General's Decision.—The attorney-general, to whom was submitted a resolution adopted by the State Board of Health relative to the legality of the action of the Board in appointing its members as State Communicable Disease Inspectors under act No. 47 of the laws of 1893, and to the question of compensation for services thus rendered and expenses thus incurred, has decided that the State Board of Health has no authority to appoint its members as inspectors and the members of said board are not entitled to compensation for services as members of the Board or as inspectors.

MINNESOTA.

Of twenty-five candidates who took the recent examination for license to practice in the state, 17 passed and are duly licensed.

A St. Paul physician has had his license taken away by the State Board of Medical Examiners, for violating the Code of Ethics by advertising.

Dr. William S. Fullerton, Winnebago City, has been appointed to fill the unexpired term of Dr. William Corpron, Minnesota Lake, resigned.

Registration of Osteopaths.—A bill has been introduced by Senator Horton, creating a state board of examiners and registration for osteopaths. The bill provides for twenty months of study and the passing of a satisfactory examination, and provides further that the members of this sect shall not prescribe any drugs.

MISSOURI.

In Kansas City, a party who resisted vaccination was fined $10 on January 21.

A St. Louis physician was fined $50, January 25, for failing to report a case of smallpox.

Dr. Zachary T. Martin, Lathrop, has been appointed physician to the penitentiary at Jefferson City.

To Check Smallpox.—The bill passed by the legislature, January 22, relative to the checking of smallpox in the state, provides for a county board of health in each county to be composed of the judges of the county court of each county and a reputable physician to be appointed by them. These county boards of health are to have the same powers within their counties as are given to the State Board of Health within the state respecting quarantine regulations and the prevention of the spread of malignant, contagious and infectious diseases. The board is given power to pay, out of the county treasury, reasonable expenses incurred by it, but it is to have no power to raise a quarantine established by the State Board of Health.

NEW YORK.

Dobbs Ferry is to have a hospital, and steps are being taken to begin the erection at once.

A new quarantine hospital for Buffalo is now a certainty. Its location will probably be outside the city limits on the county farm site.

Dr. Francis M. Deems, now of Flushing, but at one time a well-known physician of Manhattan, sustained a fracture of his hip while getting off a cable car on January 30.

New York's Health.—According to the bulletin of the State Board of Health, there were 128,468 deaths in the state during 1900, which exceeds the previous year by 6647, and the average for the past five years by 8000. It is thought that the influenza epidemic probably added 11,500 to the mortality.

New Garbage Crematory.—The State Board of Health has approved the plans for the reconstruction of their plant in Checktowoga, outside the city limits. The new plant will resemble the old one, destroyed by fire, with the exception of some new modern appliances to facilitate the work of garbage destruction.

Research Work.—A number of prominent medical societies have adopted resolutions urging Governor Odell not to interfere with the important research work that is being carried on at the Pathological Institute of the New York state hospitals, but instead to give it generous support and foster the work already begun.

Overcrowding of Insane.—There is a great overcrowding in all departments of the Manhattan State Hospital for the Insane, there being 6000 patients where not over 5000 can be properly accommodated. The superintendent has called attention to the insufficient accommodation, in his annual reports for the past two years, but relief has not yet come.

Fitch Hospital to Close.—It has been decided, by the hospital committee of the Charity Organization Society, Buffalo, to close the Fitch Accident Hospital, March 1. The hospital has been poorly endowed and the organization believes that there being another emergency hospital in the city, and because of the great cost of conducting it, the funds could be better expended in charity organization work proper for relief and investigation of poor cases.

New York City.

Mothers' and Babies' Hospital.—The directors of this maternity hospital, which has been in existence for over eighteen years, have decided to close the institution after May 1, unless the necessary financial support is forthcoming before that time. The hospital accommodates about 40 in-patients and attends to about 130 cases in the tenements each month.

Mt. Sinai Hospital.—Contributions to the building fund of this institution are coming so satisfactorily that work is to begin on the new buildings at once. There will be, in all, nine buildings, occupying the entire block bounded by One Hundredth and One Hundred and First streets and Fifth and Madison avenues. The total cost is to be $1.600,000, of which all but $225,000 has been contributed. There will be accommodations for 360 medical and surgical cases.

Practice of Midwifery.—Assemblyman McKeown, of Kings county, has introduced into the legislature a bill to regulate the practice of midwifery in New York City. It authorizes the Board of Health to appoint, on or before July 1, a board of examiners in midwifery, consisting of the sanitary superintendent of the board of health, the assistant sanitary superintendents of each borough, and the chief inspector of contagious diseases in the Borough of Manhattan. They are to meet at prescribed intervals, examine candidates and issue certificates to the successful ones, for a fee of $10. They shall have power, after a proper hearing, to recommend to the board of health the revocation of a license. All licensed midwives must register annually at the office of the board of health, before July 1. A fine is to be imposed on all persons practicing midwifery without a license.

Smallpox Among New York Italians.—Smallpox has broken out afresh in this city, in the upper section known as "Little Italy," where the people have made every effort to conceal its existence from the authorities. Of the 38 cases from this region during the past week, not one of the afflicted had been vaccinated. A midnight raid was made by 125 physicians of the board of health and an equal number of policemen, and in this way several cases were discovered and almost every person living in the district was vaccinated. They also found a child who had died of the disease. The fact that smallpox has broken out among these people means that in all probability new cases will soon appear in widely separated parts of the city, because the Italians have been working in all parts, and have had an excellent opportunity to spread the disease.

Grand Jury Findings Against Bellevue.—The grand jury for January has handed down a strong presentment against Bellevue Hospital. After careful comparison of the records of Bellevue and of the Manhattan State Hospital for the Insane, including a valuable collection of photographs belonging to the latter institution, it was found that out of 700 patients sent from Bellevue Hospital to the State Hospital bruises and other marks of bodily injury were found to be present on 250 patients, and the testimony offered convinced the jury that these injuries had not been received while in transit between the two hospitals. The presentment further says: "It is fairly deducible from the testimony submitted to us that in point of fact the medical board is directly and absolutely responsible for the administration of Bellevue. It has not been made clear to us how this state of affairs has been brought about, but it would appear that it has resulted from the gradual and steady encroachment of that body upon the prerogatives of the commissioner of charities and the superintendent of the institution." Regarding the practice of some hospitals of transferring their dying patients to Bellevue Hospital, Superintendent Stewart makes the startling statement: "117 cases of this kind have been reported as occurring within one year." Judge Truax has refused to grant a change of venue in the case of the three former nurses of Bellevue now under indictment for having caused the death of Louis Hilliard in the insane pavilion.

NORTH CAROLINA.

New Hospital and Training School.—The H. J. Reynolds hospital and training school for nurses at Winston-Salem, has raised more than $4000 for the $5000 required to secure the $5000 offered by Mr. Reynolds, and it is expected that the building will be erected immediately. There is urgent need of such an institution for colored persons in the locality, and both white and colored appear equally interested in the project.

OHIO.

Dr. Lewis A. Molony, late surgeon, U. S. A., has returned to Cincinnati.

Another arrest at the instance of the Ohio State Board of Medical Registration has been made in Cincinnati, for the practice of medicine without having been registered in the state.

OREGON.

Osteopaths, according to press reports, are not to be granted certificates to practice in Oregon, by the State Board of Medical Examiners.

Bills creating a state board of health and changing the present system of conveyance of the insane to asylums are to be introduced to the coming session of the legislature.

PENNSYLVANIA.

Higher Medical Education.—The State Medical Council, at its winter meeting, adopted a standard of such a degree that it would comply with the high requirements now in vogue at the University of Pennsylvania and other of the foremost medical colleges. The curriculum provides for "four years of exclusive medical study." The Council is making an effort to influence legislation at Washington, toward passing a law which shall be of national scope.

Philadelphia.

Bequests of $10,000 have been left to both the St. Joseph's and St. Mary's hospitals.

Dr. George W. Pfromm has been appointed chairman of the Physicians' Board of Civil Service Examiners, to succeed Dr. J. H. Anders, resigned.

Dr. Simon Flexner has been appointed pathologist of the Pennsylvania Hospital, and director of the Ayer Clinical Laboratory, to succeed Dr. H. W. Cattell, resigned.

SOUTH DAKOTA.

Vaccination Law Valid.—According to press dispatches the recent decision of the supreme court in the case brought by the Board of Education of Lead, against George W. Glover, involving the power of the board to exclude a pupil from school for refusing to be vaccinated, is that the boards of education and health departments have power to order vaccination and to exclude from school those who refuse to comply with the order.

WISCONSIN.

The State Board of Medical Examiners, at its meeting in Milwaukee, in January, passed favorably on 74 applications for license to practice, about twenty applications being held over.

An osteopath, of Waukesha, who was convicted, January 3, of illegal practice of medicine, has been fined $25 and costs. He expects to appeal and to demonstrate in a higher court the unconstitutionality of the state law.

Marinette's physicians are said to have banded themselves together and passed resolutions asking the city council to raise the annual salary of the health officer from $200 to $1000, and that he be nominated by the physicians. They have also pledged themselves individually not to accept the office unless these terms are accepted.

CANADA.

Montreal's deaths numbered 150 last week. Scarlet fever claimed 20 victims and la grippe 6.

Diphtheria, during the month of January, numbered 169 cases in Toronto, with 20 deaths.

Dr. J. G. McDougall, Amherst, N. S., has been appointed provincial examiner in anatomy in connection with the Medical College of Halifax, N. S.

Ottawa's Board of Health have recommended to the Council that the resignation of all its sanitary officers, including that of the health officer be requested.

Montreal's civic hospital is very much overcrowded, and in order to assist the physicians in charge Dr. Charlton, of the Royal Victoria, and Morin, of the Laval University, have volunteered their services.

Tribute from McGill.—On the morning of February 1, the medical students of McGill, to the number of 500, and the entire medical faculty, marched to the Queen's statue to do honor to the memory of their beloved sovereign. Four students headed the procession, bearing on their shoulders a large cushion of natural carnations. Amid a profound silence, as the faculty and students gathered around the statue, the four students advanced and laid the cushion at the foot of the statue. The cushion was in the form of the star of the Order of the Garter; and the design, including the motto—*Honi soit qui mal y pense*—had been worked out in carnations, violets and daffodils. Attached to it with McGill ribbons was a card bearing the words: "A token of life-long veneration and esteem from her loving and faithful subjects, the McGill medical students."

Royal Victoria Hospital, Montreal.—The annual meeting of this institution was held last week, and a resolution passed referring to the death of Her Majesty, Queen Victoria. The following new appointments to the medical staff were made: Clinical assistant in medicine, Dr. W. S. Morrow; in neurology, Dr. A. Shirres; in surgery, Dr. E. W. Archibald; in ophthalmology, Dr. F. W. Harvey; in laryngology, Dr. W. H. Jamieson; assistant in pathology, Dr. A. G. Nichols; in bacteriology, Dr. H. B. Yates; director of clinical laboratory, Dr. A. A. Bruere. The superintendent's report showed that 2619 patients had been admitted to the hospital during the year. Of these, 1604 were Protestants, 964 Roman Catholics, 34 Jews and 17 of other faiths; 1469 were free, 741 public ward patients, paying 50 cents a day, and 409 private patients; 2006 were residents of Montreal, and 613 were sent from the country districts. There were 82 more entered than for the previous year. On Jan. 1, 1900, there were 157 remaining in the hospital; and during the year 2582 have been discharged, of whom 1420 were cured, 698 improved and 172 unimproved, 164 not treated, 128 died, and 194 remained in on Dec. 31, 1900. Of the 128, 29 died within forty-eight hours of their admission. The death-rate for the year was 4.95 per cent., or, if those dying within forty-eight hours after admission were deducted, the death-rate would have been 3.83. The total cost per day per patient has been $1.47 as against $1.55 last year; the cost per day of maintaining each person in the hospital, staff, servants and patients, being 82 cents. The income for the year was $129,570.34, and the ordinary expenditure amounted to $99,208.62, the balance of $30,361.72 being applied toward the cost of the new out-patient department, and the power-house and laundry building. It was announced that plans have been prepared for a pavilion for the isolation of infectious diseases, and it is proposed to proceed at once with its erection.

FOREIGN.

In Vienna the appointment of medical inspectors for schools is being considered.

Dr. Hahn has been sent by the Munich university to study the plague in Egypt and India.

A new journal of hypnotism has commenced publication in France, the *Mouvement Psychique*, the official organ of the Paris Institute of Psychical Sciences.

Professor Behring is recipient of a title of nobility, conferred on the occasion of the 200th anniversary of the Kingdom of Prussia.

Among the deaths abroad occur the names of Dr. A. Spengler, of Davos, and Dr. J. Lehmann, of Copenhagen, the latter noted for his studies in hygiene and tuberculosis.

South American Women Practitioners.—The first woman to take the degree of medicine in Peru is Señorita Laura Rodriguez, who received her diploma in 1900. Ana Galvez, of Bogota, graduated in Switzerland some years ago, and returned to practice in Colombia, where she has acquired a wide reputation for her cures. In Chili, Eloisa Inzunza received her degree in medicine at Santiago in 1887, and has been practising with success ever since, according to the *Cronica Medica*, of Lima.

Tetanus from Anti-Diphtheria Serum.—During the last few months there have been an unusual number of cases of diphtheria in Italy, and antidiphtheria serum has been extensively used, nearly all derived from the Milan Institute of Serotherapy, in charge of Belfanti. According to the *Münchener Med. Woch.*, eight patients in one small town were injected with the serum and were convalescing when, the sixth to ninth day after the injection, symptoms of fulminating tetanus appeared and all but one died. Similar experiences were reported from other points, with a total of thirteen deaths. The boards of health of Milan and Rome met in emergency session, and the institute was closed. The contaminated serum was all of a certain series of 305 vials, delivered November 29, and 230 of them have been recovered, as the prefect of Milan telegraphed at once to all who had purchased the serum. It has been impossible to produce tetanus in animals inoculated with the blood of any of the patients who died, and no tetanus bacilli can be found in the recovered serum. There is no official standardizing of the serum in Italy as in Germany.

The Plague Abroad.—Passed Assistant Surgeon A. R. Thomas, who was detailed by the surgeon-general, U. S. M.-H. S., to investigate the cases of plague reported on board the *Friary*, at Hull, England, has reported that there were five deaths among the crew of that vessel, three of which were undoubted cases of plague as shown by necropsy, while the other two were probably cases, though no necropsy was held in either. The patients had no glandular enlargements, and the symptoms were so like influenza that the first two were thought to be this affection. The ship was 17 days out from Alexandria, Egypt, before the first case developed, but several rats and a cat died aboard ship before it developed. [See also London letter, this week.—ED.] According to the *British Medical Journal*, a case of plague was reported in Constantinople on January 11, and a strict quarantine of twelve days at once ordered on all vessels arriving at the mouth of the Danube from the Turkish capital. Traffic was also suspended on railway lines between Bucharest and the Black Sea ports. Reports also indicate that the disease is prevalent at Smyrna, and that of 14 persons attacked by the disease in one house, 11 died up to January 20. In Hamburg the steamship *Bergamon*, which arrived there on January 15, was placed in quarantine as the rats on board were found infected with plague. In India the deaths from this disease during the week ending January 5 numbered 2298, a marked increase over the corresponding week of last year, when there were only 1370 deaths so registered. More than one-half the number for all India occurred in Bengal, i. e., 1374, and during the week ending January 10, Mauritius reported 20 new cases of plague and 9 deaths, for the succeeding week 15 new cases and 16 deaths. In a report to the surgeon-general, U. S. M.-H. S., from Hongkong, China, Assistant-Surgeon J. W. Kerr reports, for the ten months ended Oct. 31, 1900, 1082 cases of bubonic plague with 1034 deaths. It is interesting to note that of the 6 Europeans attacked by this disease only 1 died. The method of loading ships will give some idea of how easy it is for ships to become infected while in that port. A large part of the cargo is brought direct from Canton, China, in "junks," a sort of house-boat in which the lowest class of Chinese live. From these junks the cargo is carried on the outgoing ship, and in this way can infect the rats on shipboard, or rats from the junks can get aboard. As evidence that these floating homes are infected, numbers of bodies dead from plague have been found floating in the harbor. Only a few days before Dr. Kerr's attention was called to the body of a child lying on top of a buoy in the harbor. And several instances are given where coolies engaged in loading have dropped in the harbor and been drowned, and on bacteriologic examination were found to present evidences of advanced plague infection; they were no doubt ambulatory cases overcome by overexertion.

Queen Victoria's Last Illness.—The following, from the *Lancet* of January 26, is of interest concerning the late Queen: Her health for the past twelve months had been failing, with symptoms mainly of a dyspeptic kind accompanied by impaired general nutrition, periods of insomnia, and later by occasional slight and transitory attacks of aphasia, the latter suggesting that the cerebral vessels had become damaged, although her general arterial system showed remarkably few signs of age. The constant brain work through a long life of royal responsibilities, and the imperial events, domestic sorrows, and anxieties which have crowded into her later years, may no doubt be held in some measure to account for this discrepancy between the cerebral and general vessel nutrition. The thoracic and abdominal organs showed no signs of disease. The dyspepsia which tended to lower her originally robust constitution was especially marked during her last visit to Balmoral. It was there that she first manifested distinct symptoms of brain fatigue and lost notably in weight. These symptoms continued at Windsor, where in November and December slight aphasic symptoms were first observed, always of an ephemeral kind and unattended by any motor paralysis. Although it was judged best to continue the negotiations for her proposed visit to the continent in the spring, it was distinctly recognized by her physicians and by those in closest personal attendance on her that these arrangements were purely provisional, it being particularly desired not to discourage her majesty in regard to her own health by suggesting doubts as to the feasibility of the change abroad to which she had been looking forward. The Queen suffered unusual fatigue from the journey to Osborne on December 18, showing symptoms of nervous agitation and restlessness which lasted for two days, but afterward improved for a time both in appetite and nerve tone in response to more complete quietude than she had hitherto consented to observe. A few days before the final illness transient but recurrent symptoms of apathy and somnolence with aphasic indications and increasing feebleness gave great uneasiness to her physician. On Wednesday, January 16, she showed increasing symptoms of cerebral exhaustion. By an effort of will, however, she would for a time, as it were, command her brain to work and the visitor of a few minutes would fail to observe the signs of cerebral exhaustion. On Thursday the exhaustion was more marked, with considerable drowsiness; and a slight flattening was observed on the right side of the face. From this time the aphasia and facial paresis, although incomplete, were permanent. On Friday she was a little brighter, but on Saturday evening, the 19th, there was a relapse of the graver symptoms which, with remissions, continued until the end. It is important to note that notwithstanding the great bodily weakness and cerebral exhaustion the heart's action was steadily maintained to the last; the pulse at times evincing increased tension, but being always regular and of normal frequency. The temperature was normal throughout. In the last few hours of life paresis of the pulmonary nerves set in, the heart beating steadily to the end. Beyond the slight right facial flattening there was never any motor paralysis, and except for the occasional lapses mentioned, the mind can not be said to have been clouded. Within a few minutes of her death the Queen recognized the several members of her family.

GENERAL.

Plague Investigation in San Francisco.—The recent appointment by the U. S. Treasury Department of Drs. F. G. Novy, of Ann Arbor, Simon Flexner, of the University of Pennsylvania, and L. F. Barker, of the University of Chicago, to investigate the plague in San Francisco has created consternation among those who have been denying the existence of plague there, as is evidenced by the special message presented by the governor to the legislature on the 31st ult. The governor and his medical advisors are said to have cause to fear the result which an independent investigation by such men will bring forth. The "appropriate action" which the governor, "impelled by his sense of public duty," relies on the discretion of the legislature to take, is embodied in three bills which have emanated from his office. The first adds three new sections to the Penal Code. The first section is as follows: "Any person who willfully or maliciously exposes, handles, or otherwise deals with any disease germs, bacilli, cultures, organisms or seeds of disease, or sources from which diseases may be communicated, for the purpose of communicating such disease, or with the intent to spread or communicate any infectious or contagious disease, or who negligently exposes, handles or otherwise deals with the same in a manner calculated to endanger the public health, or to result in the spread of an infectious or contagious disease, is guilty of a felony and on conviction thereof shall be punished by imprisonment in a state prison for a term of not less than one year nor more than ten years, or by a fine of not less than $500 nor more than $5000, or by both such fine and imprisonment." Another new section provided by the bill reads as follows: "Any person or any officer or member of any association, board, committee or corporation who publishes by any writing or printing that Asiatic cholera or the bubonic plague exists, or has recently existed within this state, unless the State Board of Health thereof has first determined such to be the fact and has entered a record of such determination at length upon the minutes of the board, is guilty of a felony." But it is in the second bill that the significant feature of this movement comes prominently into light. In this bill an appropriation of $100,000 is provided to be expended by the State Board of Health, *under the direction of the governor*, for the prevention of the introduction of Asiatic cholera, bubonic plague, smallpox or other contagious or infectious disease within this state, and for their suppression in case of their origin or introduction. It is provided that the claims for expenditures shall be audited by the board of examiners, except when, in the opinion of the governor, "an emergency arises which demands or necessitates the immediate use of the money, and in that case it is provided that the controller must draw his warrant in the name of the governor, without auditing, for sums not exceeding $1000 at any time the governor may direct." The object of the third bill is to center in the governor and the State Board of Health most of the power that now belongs to the local boards, and to reestablish the state quarantine service in San Francisco that has been supplanted by the Federal authorities. The effect on local boards of health will be to practically wipe them out of existence in any case of emergency, or to make them no more than sanitary police to assist the state board. Whenever they find anything they must stand aside, leaving the state board in charge. Orders were given that these bills be rushed through with all possible speed. To further this, type-written copies of the bills were furnished committee members in order that it might not be necessary to await the usual time for printing. [As we go to press we learn that the bill appropriating $100,000 has passed the assembly.]

LONDON.

The Epidemic of Arsenical Poisoning from Beer Drinking.

Though the outbreak of arsenical poisoning due to beer drinking, which occurred principally in Manchester, and to a less extent in Liverpool and others parts of the north of England, and also in some of the midland counties, has not disclosed any new symptom of arsenical poisoning, yet the observations on such a large scale reveal certain facts not at all generally known as to the frequency or otherwise of the symptoms produced by chronic arsenical intoxication. The most valuable contribution on this subject is the paper read by Dr. E. S. Reynolds at the Royal Medical and Chirurgical Society of London. In my last letter Dr. Reynolds' important discovery that the epidemic of "peripheral neuritis" in Manchester was due to arsenic in the beer has already been fully described in these columns. The patients complained of a variety of symptoms, such as pain in the feet and limbs, a feeling of pins and needles, tingling in the soles, general weakness, difficulty of walking, swollen feet, vomiting, and diarrhea. The aspect of the patients was so typical that a diagnosis could be made at sight by those accustomed to see the cases. There was a puffiness, especially about the eyelids, and a deep crimson color of the face. Of the numerous skin eruptions, erythromelalgia was perhaps the commonest. It consisted of painful red swelling of the feet and hands. The erythema was most intense at the edges, the center of the palm being almost exempt. The pain was so marked that the patients could not sleep. The red patches were followed by keratosis of the hands and feet, scales being exfoliated so plentifully that a 2-ounce bottle could be filled in a short time. This keratosis was very important in the diagnosis in fair-haired persons, because in them pigmentation did not occur. If a fair-haired person had such keratosis and peripheral neuritis there was a strong presumption of arsenical poisoning. There were also scarlatiniform and morbilliform erythematous rashes. The first began like scarlatina, with a collaret around the neck. Sometimes there were papular, sometimes vesicular and bullous eruptions. These rashes came on as late as six weeks after ceasing to drink the beer. Pigmentation was very common and the cases showed that the received description is not quite correct. Though some showed islets of normal skin in a generalized pigmentation, such were not always present. In 21 cases herpes was observed in various situations. The heart was very seriously affected. It became dilated and there was sometimes edema of the feet and chest wall. Arsenic was found in the urine in many cases as long as two weeks after ceasing to take contaminated beer. It was also excreted in the milk. In some cases the temperature was elevated.

Appointment of a Royal Commission.

A royal commission has been appointed to investigate the epidemic of arsenical poisoning. It will consist of Lord Kelvin, Sir W. Hart Dyke, Sir W. S. Church (president of the Royal College of Physicians), Prof. T. E. Thorpe (government analyst), Mr. H. Cosmo Bonsor and Dr. B. A. Whitelegge (H. M. chief inspector of factories). The instructions to the commissioners are to ascertain: 1. The amount of recent exceptional sickness and death attributable to arsenical poisoning. 2. Whether such sickness and death has been due to arsenic in beer or in other articles of food or drink. 3. By what safeguards arsenical poisoning from food may be prevented.

Enormous Pancreatic Cyst Simulating Ascites.

At the Clinical Society, Dr. Sidney Phillips read notes of this case. A man, aged 22, was kicked in the abdomen by a horse. He became subject to attacks of acute abdominal pain, and after five months was quite emaciated and had an enormously distended abdomen, dull everywhere except in the stomach's area. Ascites with peritoneal adhesions was thought probable. After 145 ounces of clear fluid had been removed by Southey's tubes, without improvement, laparotomy was performed, and a large quantity of fluid, like that of ascites, removed. Death occurred a few days later. The necropsy showed that the fluid had been contained in a thin-walled pancreatic cyst occupying almost the whole abdominal cavity. The cyst originated in the head of the pancreas, with which it communicated by an opening one-sixth inch in diameter. The remarkable point in the case was the unusual character of the fluid, which had a specific gravity of 1002, quite clear, and closely resembled ascitic fluid.

Plague at Hull.

Plague has again visited our shores. This time the important seaport of Hull is the point of attack. A steamer arrived on January 10 from Alexandria, having touched at Algiers on the voyage. Three days before the vessel arrived one of the crew was taken suddenly ill and died after forty-eight hours' illness. Being so near the port the captain, instead of consigning the body to the deep, brought it to land. The vessel was inspected by the port sanitary authorities, and the man having apparently died from natural causes, and there being no more sickness on board, suspicions were not aroused and the vessel was allowed to enter the dock and discharge the cargo in the usual manner. But on the 12th two of the crew sickened. The medical officer of health was called in and diagnosed influenza complicated by pneumonia. Two more of the crew sickened on the 15th. The four died. Post-mortem examination of two of the bodies again failed to show anything inconsistent with the diagnosis of influenza and pneumonia, but owing to the suspicious circumstances the viscera were forwarded to the well-known expert, Dr. Klein, for bacteriologic examination. He has found that the disease was plague. All necessary precautions to prevent the spread of the disease have been taken. Two of the bodies have been cremated and the authorities await permission to cremate the other two. The local government board has dispatched an inspector, who is investigating the matter.

Correspondence.

Angina Epiglottidea Anterior.

JERSEY CITY, N. J., Jan. 23, 1901.

To the Editor:—Having had a case of angina epiglottidea anterior, or acute epiglottitis, I read with interest the account of this malady, in THE JOURNAL of January 18, by Dr. Clement F. Theisen, Albany, N. Y. My one case may, however, throw more light on this peculiar ailment, and it is with this belief I offer it for publication. J. MORGAN JONES, M.D.

REPORT OF CASE.

Miss K. C. M., aged 21 years, was taken suddenly ill, Jan. 6, 1901, with lancinating pains at the base of the tongue, and with difficult deglutition. She grew rapidly worse until January 9, when she could swallow absolutely nothing; pain at the base of the tongue was much more severe, and she had some temperature and was slightly constipated. She was unable to assume a recumbent posture, on account of dyspnea, and was obliged to resort to oral breathing, to improve that condition. At this time they decided to see a physician, and called on a brother practitioner, at his office. From the history of the trouble, he diagnosed the case as tonsillitis, and prescribed accordingly. The patient continued to get worse, and sent for the physician to call at her home, January 10, but as he was unable to attend, I was asked to take charge. On seeing her for the first time, she was sitting in a chair, the body inclined forward, her mouth open, and with an anxious facial expression. On being asked why she sent for a physician I was told that she was subject to tonsillitis, and supposed she was undergoing a similar attack at that time, only much worse, and feared her throat was going to become entirely closed.

The throat was enveloped in strips of salt pork, covered by a flannel bandage. There was considerable submaxillary lymphatic involvement, which one could see as well as feel. However, the patient gave a tubercular history, and admitted the presence of glandular enlargement for several months. Inspection of the oral cavity and pharyngeal vault revealed absolutely no evidence of inflammation anywhere, and for a moment I was nonplussed. But, as the patient repeatedly touched herself about the inferior border of the thyroid cartilage, and insisted that movements of the tongue were very painful, and that she could still swallow nothing, I made a laryngoscopic examination, and found the epiglottis very much inflamed, of a uniform scarlet hue, also considerably enlarged. There was slight extension of the inflammation to the vocal cords, and also to the aryteno-epiglottic folds. Rectal temperature was 101.5., the tongue slightly coated, gray but moist. The pulse was 88, regular, and tension normal. Parenthetically, I was informed she had been treated for a valvular cardiac lesion, for a year; but it was not discoverable to me.

Treatment.—I prescribed calomel, gr. 1/10, every half hour for ten doses; it had to be dissolved in one-half dram of water, and then kept in the mouth, as the patient could not swallow, even to that extent. In addition, inhalations of turpentine vapor were ordered, to be inhaled through a cone every hour; also a cold spray of hydrogen dioxid and water, equal parts, to be used every hour. The strips of salt pork were discontinued, and hot water fomentations used, to be changed as soon as they would feel cool, during the daytime. Upon retiring, for I encouraged the reclining posture, a cold water pack was applied and left *in situ* till morning. Jan. 11, 1901, the bowels moved freely twice, showing characteristics of the calomel purgation. Hot water fomentations were discontinued, but otherwise treatment continued unchanged. By night, there was a diminution in the size of the lymphatics, the patient felt slight improvement, and was able to swallow about one-half an ounce of milk. Saturday, January 12, there was very little soreness remaining, and she could swallow liquids with very little discomfort. On the 13th her condition was entirely relieved, and, contrary to advice, she ate a hearty dinner, experiencing no deleterious effects, save that la grippe developed next day, from which recovery was prompt and uneventful.

Association News.

Committee on National Legislation.

The Committee on National Legislation of the AMERICAN MEDICAL ASSOCIATION hereby calls a meeting in annual conference at Washington, D. C., on Feb. 20 and 21, 1901, at 11 a.m., at the Arlington Hotel, to consider various medical matters now pending in the national Congress of the United States, and any other medical matters of local interest to societies.

H. L. E. JOHNSON, M.D.
Chairman Committee on National Legislation.

Chairmen of Committees of the American Medical Association.

Dr. J. W. Chamberlin, Lowry Arcade, St. Paul, Minn., badges.

Dr. J. F. Fulton, Lowry Arcade, St. Paul, Minn., on arrangements.

Dr. C. Williams, 145 West 5th street, St. Paul, Minn., banquets.

Dr. C. A. Wheaton, Lowry Arcade, St. Paul, Minn., on finance.

Dr. H. L. Taylor, Lowry Arcade, St. Paul, Minn., general exhibits.

Dr. H. H. Kimball, Dayton Building, St. Paul, Minn., meeting places.

Dr. Burnside Foster, Lowry Arcade, St. Paul, Minn., entertainments.

Dr. Edw. Boeckmann, Lowry Arcade, St. Paul, Minn., pathological exhibits.

Dr. J. A. Quinn, corner 4th street and Wabasha, St. Paul, Minn., transportation.

Dr. Harry O'Brien, Endicott Arcade, St. Paul, Minn., programs and publications.

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At the Clinical Society, Dr. Sidney Phillips read notes of this case. A man, aged 22, was kicked in the abdomen by a horse. He became subject to attacks of acute abdominal pain, and after five months was quite emaciated and had an enormously distended abdomen, dull everywhere except in the stomach's area. Ascites with peritoneal adhesions was thought probable. After 145 ounces of clear fluid had been removed by Southey's tubes, without improvement, laparotomy was performed, and a large quantity of fluid, like that of ascites, removed. Death occurred a few days later. The necropsy showed that the fluid had been contained in a thin-walled pancreatic cyst occupying almost the whole abdominal cavity. The cyst originated in the head of the pancreas, with which it communicated by an opening one-sixth inch in diameter. The remarkable point in the case was the unusual character of the fluid, which had a specific gravity of 1002, quite clear, and closely resembled ascitic fluid.

Plague at Hull.

Plague has again visited our shores. This time the important seaport of Hull is the point of attack. A steamer arrived on January 10 from Alexandria, having touched at Algiers on the voyage. Three days before the vessel arrived one of the crew was taken suddenly ill and died after forty-eight hours' illness. Being so near the port the captain, instead of consigning the body to the deep, brought it to land. The vessel was inspected by the port sanitary authorities, and the man having apparently died from natural causes, and there being no more sickness on board, suspicions were not aroused and the vessel was allowed to enter the dock and discharge the cargo in the usual manner. But on the 12th two of the crew sickened. The medical officer of health was called in and diagnosed influenza complicated by pneumonia. Two more of the crew sickened on the 15th. The four died. Post-mortem examination of two of the bodies again failed to show anything inconsistent with the diagnosis of influenza and pneumonia, but owing to the suspicious circumstances the viscera were forwarded to the well-known expert, Dr. Klein, for bacteriologic examination. He has found that the disease was plague. All necessary precautions to prevent the spread of the disease have been taken. Two of the bodies have been cremated and the authorities await permission to cremate the other two. The local government board has dispatched an inspector, who is investigating the matter.

Correspondence.

Angina Epiglottidea Anterior.

Jersey City, N. J., Jan. 23, 1901.

To the Editor:—Having had a case of angina epiglottidea anterior, or acute epiglottitis, I read with interest the account of this malady, in The Journal of January 18, by Dr. Clement F. Theisen, Albany, N. Y. My one case may, however, throw more light on this peculiar ailment, and it is with this belief I offer it for publication. J. Morgan Jones, M.D.

REPORT OF CASE.

Miss K. C. M., aged 21 years, was taken suddenly ill, Jan. 6, 1901, with lancinating pains at the base of the tongue, and with difficult deglutition. She grew rapidly worse until January 9, when she could swallow absolutely nothing; pain at the base of the tongue was much more severe, and she had some temperature and was slightly constipated. She was unable to assume a recumbent posture, on account of dyspnea, and was obliged to resort to oral breathing, to improve that condition. At this time they decided to see a physician, and called on a brother practitioner, at his office. From the history of the trouble, he diagnosed the case as tonsillitis, and prescribed accordingly. The patient continued to get worse, and sent for the physician to call at her home, January 10, but as he was unable to attend, I was asked to take charge. On seeing her for the first time, she was sitting in a chair, the body inclined forward, her mouth open, and with an anxious facial expression. On being asked why she sent for a physician I was told that she was subject to tonsillitis, and supposed she was undergoing a similar attack at that time, only much worse, and feared her throat was going to become entirely closed.

The throat was enveloped in strips of salt pork, covered by a flannel bandage. There was considerable submaxillary lymphatic involvement, which one could see as well as feel. However, the patient gave a tubercular history, and admitted the presence of glandular enlargement for several months. Inspection of the oral cavity and pharyngeal vault revealed absolutely no evidence of inflammation anywhere, and for a moment I was nonplussed. But, as the patient repeatedly touched herself about the inferior border of the thyroid cartilage, and insisted that movements of the tongue were very painful, and that she could still swallow nothing, I made a laryngoscopic examination, and found the epiglottis very much inflamed, of a uniform scarlet hue, also considerably enlarged. There was slight extension of the inflammation to the vocal cords, and also to the aryteno-epiglottic folds. Rectal temperature was 101.5., the tongue slightly coated, gray but moist. The pulse was 88, regular, and tension normal. Parenthetically, I was informed she had been treated for a valvular cardiac lesion, for a year; but it was not discoverable to me.

Treatment.—I prescribed calomel, gr. 1/10, every half hour for ten doses; it had to be dissolved in one-half dram of water, and then kept in the mouth, as the patient could not swallow, even to that extent. In addition, inhalations of turpentine vapor were ordered, to be inhaled through a cone every hour; also a cold spray of hydrogen dioxid and water, equal parts, to be used every hour. The strips of salt pork were discontinued, and hot water fomentations used, to be changed as soon as they would feel cool, during the daytime. Upon retiring, for I encouraged the reclining posture, a cold water pack was applied and left *in situ* till morning. Jan. 11, 1901, the bowels moved freely twice, showing characteristics of the calomel purgation. Hot water fomentations were discontinued, but otherwise treatment continued unchanged. By night, there was a diminution in the size of the lymphatics, the patient felt slight improvement, and was able to swallow about one-half an ounce of milk. Saturday, January 12, there was very little soreness remaining, and she could swallow liquids with very little discomfort. On the 13th her condition was entirely relieved, and, contrary to advice, she ate a hearty dinner, experiencing no deleterious effects, save that la grippe developed next day, from which recovery was prompt and uneventful.

Association News.

Committee on National Legislation.

The Committee on National Legislation of the American Medical Association hereby calls a meeting in annual conference at Washington, D. C., on Feb. 20 and 21, 1901, at 11 a.m., at the Arlington Hotel, to consider various medical matters now pending in the national Congress of the United States, and any other medical matters of local interest to societies.

H. L. E. Johnson, M.D.
Chairman Committee on National Legislation.

Chairmen of Committees of the American Medical Association.

Dr. J. W. Chamberlin, Lowry Arcade, St. Paul, Minn., badges.

Dr. J. F. Fulton, Lowry Arcade, St. Paul, Minn., on arrangements.

Dr. C. Williams, 145 West 5th street, St. Paul, Minn., banquets.

Dr. C. A. Wheaton, Lowry Arcade, St. Paul, Minn., on finance.

Dr. H. L. Taylor, Lowry Arcade, St. Paul, Minn., general exhibits.

Dr. H. H. Kimball, Dayton Building, St. Paul, Minn., meeting places.

Dr. Burnside Foster, Lowry Arcade, St. Paul, Minn., entertainments.

Dr. Edw. Boeckmann, Lowry Arcade, St. Paul, Minn., pathological exhibits.

Dr. J. A. Quinn, corner 4th street and Wabasha, St. Paul, Minn., transportation.

Dr. Harry O'Brien, Endicott Arcade, St. Paul, Minn., pro-
grams and publications.

Dr. J. T. Rogers, Lowry Arcade, St. Paul, Minn., halls and meeting places.

Dr. E. J. Abbott, Endicott Arcade, St. Paul, Minn., bureau of information.

Dr. J. B. Brimhall, Seven Corners, St. Paul, Minn., registration.

Dr. Arthur Sweeney, Lowry Arcade, St. Paul, Minn., hotel arrangements.

New Members.

The following is a list of new members of the A. M. A. for January, 1901.

ALABAMA.

Brothers, Philip H., Zula.
Baker, D. H., Birmingham.
Due, Malvern N., Birmingham.
Pettus, Claude, Monrovia.
Hudson, W. H., LaFayette.
Sledge, Wm. H., Mobile.

CALIFORNIA.

Evans, Geo. H., San Francisco.
Wilbur, Ray L., San Francisco.
Tooley, L. P., Willows.
Ketcham, L. Y., San Diego.
Haynes, J. R., Los Angeles.

GEORGIA.

Lovvorn, R. M., Bowdon.
Roberson, G. W., Macon.
Barron, Robt. B., Macon.

ILLINOIS.

Stiver, R. J., Lena.
Knoppenberger, H., Macomb.
Schowengerdt, W. E., Champaign.
Dixon, Wm. A., Decatur.
Wells, Wm. H., Monmouth.
Merriman, H. P., Chicago.
Novak, F. J., Chicago.
Martin, Albert R., Chicago.
Wagner, Henry E., Chicago.
Beehler, L. L., Chicago.
Dombrowski, Paul, Peoria.
Corwin, A. M., Chicago.
McKinney, John G., Quincy.
Yolton, John L., Bloomington.
Fringer, G. W., Pana.
Fullenwider, J. A., Champaign.
Heisz, Emily J., Chicago.

NAME OMITTED FROM PUBLISHED LIST OF MEMBERS IN SEPTEMBER.

Gillespie, T. W., Losant, Ill.

INDIANA.

Howat, W. F., Hammond.
Moore, E. P., South Bend.
Oyler, Wm. A., Argos
Holland, P. C., Bloomington.

INDIAN TERRITORY.

Kennedy, Samuel G., Tulsa.

IOWA.

Rector, Albert E., Spirit Lake.
Allen, Manning L., Tama.
Wedel, J. R., Vincennes.
Boice, J. C., Washington.
Prentice, G. L., Searsboro.

KENTUCKY.

Smith, Joseph E., Bardstown.
Foster, Wm. E., Owenton.
Fugitt, Walter W., Burtonville.

LOUISIANA.

Girard, Percy M., Lafayette.
McGuire, Marion H., New Orleans.
Gaydon, Agrippa, Norwood.
Alison, Jacob S., Swartz.
Stephens, Jos. S., Natchitoches.
Blum, Henry N., New Orleans.

MASSACHUSETTS.

Weston, George D., Springfield.
Hill, Edgar D., Plymouth.
Dickson, Richard E., Granby.
Hood, Mary G., Newton Center.
McDonald, Wm. J., Boston.
Thorndike, Augustus, Boston.
Shisler, Wm. H., Boston.
Clement, Geo. C., Haverhill.

MARYLAND.

Hocking, G. H., Baltimore.
Grieves, C. J., Baltimore.
Johnson, Thos. B., Frederick.
Orrison, J. E., Baltimore.

MICHIGAN.

Baldwin, Fred'k A., Ann Arbor.
Greene, M. Clayton, Lowell.
Brehm, Theo., Negaunee.
Campbell, J. F., Lansing.
Cornell, D. B., Saginaw.
Otis, F. J., Battle Creek.
Schmalzriedt, Theo., Woodmere.

MINNESOTA.

Holte, H., Crookston.
Shimonek, A., St. Paul.
Archibald, F. N., Atwater.
Maloy, G. E., St. Cloud.
Lumley, W. A., Renville.
Shrader, E. E., Watertown.
McCarthy, Wm. J., Madelia.
Stuart, J. H., Minneapolis.
Lonsdale, J., Royalton.
Law, A. A., Minneapolis.
Curran, G. R., Worthington.
De La Barre, Wm., Minneapolis.
Grivelli, Carl T., Young America.
Wilson, Warren, Northfield.

MISSISSIPPI.

Weissinger, A. J., Days.
Dickens, Wm. B., Woodstock.
Sutherland, H. L., Rosedale.
Johnson, John H., Brook Haven.
Wilburn, Thos. L., Kilmichael.
Dilworth, J. A., Aberdeen.

MISSOURI.

Rice, John J., Kearney.
Weyman, Moritz F., St. Joseph.

NEW HAMPSHIRE.

Morrill, S. C., Concord.
Russell, Julia Wallace, Concord.
Wallace, E. A., Manchester.

NEW YORK.

Appleton, Mary, New York City.
Levison, H. A., New York City.
Forbes, H. H., New York City.
Burrows, C. C., New York City.
Kemp, R. E., New York City.
Irwin, S. N., New York City.
Dudley, R. B., Clinton.
Gravatt, Edwin J., Troy.
Slenker, Milton A., New York City.
Dodin, Henry A., New York City.

NORTH DAKOTA.

Savage, Jas. L., Davenport.
Burrows, Fred'k N., Bathgate.
Moeller, Jess Henry, Devil's Lake.

NEBRASKA.

Neeley, John M., Elmwood.
Little, Wm. Jas., Madison.

NEW JERSEY.

Porter, Katherine, Orange.

OHIO.

Schoepfle, H. C., Sandusky.
Ray, Joseph H., Coalton.
Goodsell, Evander J., Norwalk.
Bernstein, S. L., Cleveland.
Courtright, T. E., Columbus.
Ray, Jas. B., Scioto.
Briggs, Chas. E., Cleveland.
Baker, J. P., Findlay.
Isham, A. B., Cincinnati.

PENNSYLVANIA.

Wiggins, S. L., McKeesport.
Miller, W. W., Jeannette.
Quigley, John M., Shawmut.
East, Albert F., Reading.
Butz, R. E., York.
Crumrine, Clyde W., Charleroi.
Minier, Chas. H., Wilkesbarre.
Woods, Adella B., Erie.
Kirk, Thos. T., Pittsburg.
Messer, Agnes B. Robinson-, Philadelphia.
Lear, John, Allentown.
Overmiller, N. A., Yoe.
Mercur, Wm. H., Pittsburg.
Harbaugh, C. H., Philadelphia.
Ritter, Ella N., Williamsport.
Frantz, Jos., Waynesboro.
Hassler, S. F., Harrisburg.
Hayes, R. G. H., Bellefonte.

TENNESSEE.

McCoy, Ambrose, Jackson.
Harris, J. A., Dandridge.

TEXAS.

Mitchel, L. C., San Antonio.

UTAH.

Parkinson, Wm. B., Logan City.

VIRGINIA.

Brown, Israel, Norfolk.
Mosby, Ernest, Mt. Meridian.
Vanderslice, G. K., Phoebus

NORTH CAROLINA.

Lyle, S. H., Franklin.

NEW MEXICO.

Haynes, John R., Albuquerque.

WASHINGTON.

Hamilton, Allan, Tacoma.

WISCONSIN.

Cantwell, W. H., Shawano.
Voorus, C. W., Beaver Dam
Schulz, F. M., Milwaukee.
Farrell, Albert M., Two Rivers
Tibbitts, U. J., Prospect.
Farr, Lyman R., Beloit.
Schauer, Julius L., Milwaukee.
Holbrook, Arthur T., Milwaukee.
Bromley, Fred'k W., Palmyra.
Mack, J. A., Madison.
Hartford, W. P., Cassville.
MacLachlan, Wm. G., McFarland.
Smith, Bryant, Milwaukee.

Book Notices.

Ringworm in the Light of Recent Research. By Malcolm Morris, Surgeon to the Skin Department, St. Mary's Hospital. Price, $2.00. London, Paris and Melbourne: Cassell & Co. 1898.

This appears in the form of an artistic cloth-bound monograph of 137 pages, illustrated by a colored frontispiece and twenty-two photomicrographs of stained specimens and cultures of the ringworm fungi. The reproductions are of a good order. The subject is introduced by a brief historical treatment and a rehearsal of the parasitic theory of the disease. Gruby is credited with the discovery of the Microsporon audouini in 1843, while in 1844 Malmsten discovered the trichophyton fungus. It is explained that through a confusion of terms the discovery fell into disrepute and was entirely forgotten until Sabouraud in 1892 established the parasitic nature of the disease and the plurality of its fungi. The doctrine of Sabouraud is clearly set forth, and his conclusions in the main adopted, the criticisms being offered that the French investigator divides the fungi into too many varieties, and is too positive concerning the clinical differences of the various types of infection. The results of other modern investigators are summarized, and the author offers the results of his own examination of 126 consecutive cases. The hairs of all cases were stained by a modified Gram method—original with the author—and many cultures were made on Sabouraud's maltose agar. The cultural results in the main corroborate those of the French writer. It is suggested, however, that the fine cultural differences of Sabouraud are not essential.

Treatment and prophylaxis receive detailed and satisfactory attention.

No criticism is to be offered on the clearness and easy style of the contributors.

Manual of Pathology, Including Bacteriology, the Technic of Post-mortems, and Methods of Pathologic Research. By W. M. Late Coplin, M.D., Professor of Pathology and Bacteriology, Jefferson Medical College, Philadelphia; Pathologist to Jefferson Medical College Hospital and to the Philadelphia (Blockley) Hospital; Bacteriologist to the Pennsylvania State Board of Health. Third Edition, revised and enlarged. 350 Illustrations and 7 Colored Plates. Octavo. Pp. 846. Price, $3.50 net. Philadelphia: P. Blakiston's Son & Co. 1900.

Including, as this book does, bacteriology, the technique of post-mortem examinations, methods of research in pathology, general and special pathology, it is quite self-evident that the 846 pages of which it consists can only give the most important facts of the subjects mentioned. We believe that the work is quite reliable as far as it goes. In some places the classification is somewhat peculiar, thus there is a separate chapter devoted to mucous membranes in the section on special pathology, and then we find that the different mucous membranes are considered again in connection with the organs of respiration and alimentary canal, etc. In the section on technic, there is a large number of illustrations which show the names of the manufacturers in large letters, so that this part of the book looks quite like an instrument catalogue. The type is large and clear; the paper is of a high grade, and many of the illustrations are quite satisfactory.

Terapia Delle Malattie Dell' Infanzia ad uso di medici e studenti del Dott. Prof. Cesare Cattaneo, Libero docente di Clinica Medica Pediatrica alla R. Università di Parma. Cloth. Pp. 507. Milan, Italy: Urico Hoepli. 1901.

This little volume on the diseases of children differs somewhat in its plan from the average of similar publications. It is a work of treatment almost exclusively, and in alphabetic arrangement. The author accepts as probable, and takes for granted, that the reader is well posted as to the symptoms of the diseases, so, after a few remarks on causation and prognosis, passes at once to the therapeutics of the disorder and its complications. The work contains a large number of prescriptions given according to the Italian Pharmacopeia, but readily transposable and intelligible for the most part to the American practitioner even though the text accompanying them is not. The volume seems to be, in its compass, and with its limitations above noted, a very satisfactory handling of its particular subject.

Diseases of the Heart, Blood-Vessels, Lymphatics, Blood, and Ductless Glands. A Wall Chart. Published by M. J. Breitenbach Co., New York.

This chart gives the chief points of each disorder under the heads of causation, general symptoms, physical signs by inspection, palpation, auscultation, depression, blood change, pulse characteristics, the complications and sequelæ also noted. So far as we are able to see, the chart is a reliable statement of the main diagnostic points of these diseases, and will be a very convenient office adjunct to a physician for occasional or daily reference.

Married.

Arthur E. Gillette, M.D., to Miss Mayme Jones, both of Cincinnati, Ohio, January 24.

Horace Hall, M.D., Tepasals, Mexico, to Miss Camilla Scott, of Dallas, Texas, January 24.

G. W. Launspach, M.D., Fulton, S. Dak., to Miss Mary Anderson, of Dubuque, Iowa, January 16.

Frank Gray Ketchum, M.D., New York City, to Miss Mary Myers, of Lonaconing, Md., January 24.

F. Cullen Welty, M.D., Cleveland, Ohio, to Miss Eleanor Wood, of San Francisco, Cal., February 7.

Willis Alonzo Bird, M.D., Theney, Texas, to Miss Sara Priscilla Burdeshaw, of Kinsey, Tenn., January 16.

James Hardy Pittman, M.D., Jacksonville, Fla., to Miss Myrtice Barnett Cason, of Marietta, Ga., January 24.

William Fulford Sappington, M.D., of the house staff of the Maryland University Hospital, to Miss Florence Valiant Robertson, of Baltimore, at Elmira, N. Y., January 24.

Deaths and Obituaries.

Martin Hagan, M.D., Starling Medical College, Columbus, Ohio, 1859, Los Angeles, Cal., died at his home in that place, January 23, from apoplexy, aged 68. After service in the Civil War he practiced in St. Paul, Minn., until 1881, when he was placed in charge of the asylum for the insane of the Hawaiian Islands. In 1884 he moved to Los Angeles, and three years later was made health officer. He did efficient work in the smallpox epidemic of 1887-88.

Henry J. Herrick, M.D., Rush Medical College, Chicago, 1861, died from uremia, after an illness of about one year, at his home in Cleveland, Ohio, January 28, aged 67. He was a member of The American Medical Association, for many years professor of state medicine and hygiene in the medical department of Western Reserve University, and surgeon-general of Ohio, during Governor Foraker's administration.

William H. Nevison, M.D., Western Reserve University, Cleveland, Ohio, 1887, and a member of its faculty, died at Lakeside Hospital, Cleveland, Ohio, January 27, from pulmonary tuberculosis. *He was 37 years old. At a meeting* of the faculty of the medical department of the university, January 30, resolutions laudatory of the deceased and expressing regrets and sympathy at his early death, were adopted.

Homer Octavius Jewett, M.D., New York University, 1843, died at his home in Cortland, N. Y., from pneumonia. He was one of the founders of the New York State Medical Association, before which he read many papers. He also early identified himself with The American Medical Association, and was in active practice until about a month before his death.

Charles W. Stevens, M.D., Harvard Medical School, 1870, died at his residence in Charlestown, Mass., January 25, from diphtheria, at the age of 65. He served as city physician and as surgeon on one of the steamship lines between Boston and Liverpool, and was a member of the Massachusetts Academy of Medicine.

Armstrong P. Houston, M.D., Jefferson Medical College, Philadelphia, 1854, of Clarksville, Ga., died in Atlanta, Ga., January 27, while on his way to Florida for his health, aged 69. He practiced at Clarksville for forty years and served during the Civil War as a surgeon on the Confederate side.

Henry L. Stickel, M.D., Jefferson Medical College, Philadelphia, 1873, died in Harrisburg, Pa., January 24, from tuberculosis, aged 48. He served as surgeon in the army and was consulting surgeon of the Harrisburg Hospital.

Isaac Ryall, M.D., *Trinity Medical College, Toronto, 1855,* medical health officer of Hamilton, Ont., died on January 20, from hemorrhage of the stomach. For twenty-six years he was Hamilton's health officer. He was also surgeon to the Thirteenth Regiment at the time of the fenian raid.

S. D. M. Byrd, M.D., Oglethorpe Medical College, Savannah, Ga., 1856, died suddenly at his home in Scranton, S. C., January 21. He served on the Confederate side in the Civil War, rising to the rank of lieutenant-colonel, and was also state representative and senator for several terms.

Frederick G. Bloom, M.D., died at his home in Martinsburg, Pa., January 23, aged 79. He was one of the oldest graduates of the University of Pennsylvania, and had practiced in Martinsburg for more than half a century.

Albert G. Priest, M.D., Jefferson Medical College, Philadelphia, 1852, died suddenly from apoplexy, January 24, at his home in Shelbyville, Mo., where he had practiced for nearly fifty years. His age was 72 years.

David V. Waite, M.D., Geneva Medical College, Geneva, N. Y., 1851, who had practiced medicine for more than forty years in and around Rockton, Ill., died at his home in that place, January 26, aged 76.

Dennis H. Reardon, M.D., Western Reserve, Cleveland, Ohio, 1883, of Elmira, N. Y., was found dead, January 27. An overdose of chloroform, which he was in the habit of inhaling, was the cause.

Wesley W. Barkwell, M.D., Detroit College of Medicine, 1889, who practiced in Chicago until tuberculosis forced him to go to San Jose, Cal., in 1898, died at Tucson, Ari., January 28, aged 38.

Oliver Newton Murdock, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1876, died January 29, at his home in Minneapolis, Minn., after a short illness from la grippe, aged 47.

Nathan H. Raynor, M.D., University of Pennsylvania, Philadelphia, 1879, died at his residence in Philadelphia, January 25, after an illness of two months, from Bright's disease, aged 45.

William W. Parker, Jr., M.D., University College of Medicine, Richmond, Va., 1899, died at the Virginia Hospital, Richmond, after an illness of four weeks, from typhoid fever, January 24.

Edson K. Smith, M.D., Dartmouth Medical College, Hanover, N. H., 1891, died at his home in Poultney, Vt., after an illness of two weeks, from typhoid fever, January 24, aged 46.

Frederick C. McCarthy, M.D., Harvard Medical School, 1899, of Malden, Mass., died from typhoid fever at the Mas*sachusetts General Hospital, Boston, January* 21, aged 28.

John D. Kremien, M.D., formerly a practicing physician of Baltimore, and a member of the Medical and Chirurgical Faculty of Maryland, died January 23, from typhoid fever.

Erskine E. Hamilton, M.D., College of Physicians and Surgeons, New York City, 1892, recently died from Bright's disease, at his home in Springfield, Mass., aged 34.

William Langdon Simpson, M.D., Medical School of Maine, Brunswick, 1879, died from the effects of a bullet-wound in the head, in New York City, January 26.

William Foster Harvey, M.D., Medical College of Ohio, for many years a practitioner in Hendricks County, Ind., died at his home in Indianapolis, January 27, aged 75.

John Thompson, M.D., Bellevue Hospital Medical College, 1871, died from pneumonia, after an illness of four days, at his home in Amherst, Va., January 23, aged 61.

John H. Miller, M.D., Castleton Medical College, Castleton, Vt., 1859, formerly a resident of New Bremen, N. Y., died at his home in Burbank, Cal., January 24, aged 66.

J. Ranlet Smith, M.D., Vermont Medical College, Woodstock, 1845, died at his residence in Gloucester, Mass., January 25, after an illness of several years, aged 79.

Walter W. Worley, M.D., St. Louis Medical College and Bellevue Hospital Medical College. died after a long illness, January 22, at his home in Ursa, Ill., aged 37.

Henry W. Bryan, M.D., University of Pennsylvania, 1895, died at his home in Wilmington, Del., from pneumonia after an illness of four days, January 27, aged 31.

William D. Craig, M.D., Rush Medical College, Chicago, 1850, who had practiced for forty years in Aledo, Ill., died at his home in that city, January 23, aged 71.

John H. O'Brien, M.D., New York University, 1887, died at his home in Pittsburg, Pa., January 28, after an illness of six weeks, from Bright's disease, aged 41.

Charles C. Allen, M.D., Missouri Medical College, St. Louis, 1850; Bellevue Hospital Medical College, 1872, died at his home in Chillicothe, Ill., January 23, aged 75.

Almon V. Thompson, M.D., Medical School of Maine, Brunswick, 1874, died from Bright's disease, January 25, at his home in Beaver Falls, Pa., aged 56.

J. Stuart Leech, M.D., Jefferson Medical College, Philadelphia, 1841, the oldest physician in Chester County, died January 23, at Downington, Pa., aged 87.

John F. McGrew, M.D., College of Physicians and Surgeons, Baltimore, Md., 1888, died from consumption at his home in Finleyville, Pa., January 27, aged 40.

Frank Wertz, M.D., University of Pennsylvania, 1866, died at his home in Longswamp Township, Berks County, Pa., January 18, from apoplexy, aged 64.

Grafton Marsh Bosley, M.D., University of Maryland, 1847, of Towson, Md., died at the Church Home and Infirmary, Baltimore, January 26, aged 75.

Frederick S. Nelson, M.D., University of the South, Sewanee, Tenn., 1900, died January 27 from tuberculosis, at Newmarket, N. J., aged 37.

John A. Keith, M.D., Medical College of the State of South Carolina, Charleston, S. C., 1881, died at his home in Lucknow, S. C., January 23.

Louis R. Warren, M.D., College of Physicians and Surgeons, New York City, 1880, died recently at his home, Orange Ridge, Braidentown, Fla.

Theodore D. C. Miller, M.D., Bellevue Hospital Medical College, New York, 1866, died at his home, New York City, January 29, aged 59.

Arthur W. Langley, M.D., Medical School of Maine, Brunswick, 1891, died suddenly at his home in Kennebunkport, Me., January 23, aged 35.

Edward James Marshall, M.D., University of Pennsylvania, Philadelphia, 1867, died at his home in Northbrook, January 28, aged 60.

Henry W. Holman, M.D., Jefferson Medical College, Philadelphia, 1855, at his home in Inez, Va., from pneumonia, January 23, aged 71.

James Seth, M.D., University of Maryland, 1865, died January 26, at his home near McDaniel, Md., where he had practiced for 35 years.

Andrew J. Norris, M.D., College of Physicians and Surgeons, Iowa, 1870, died at his home in Ten Mile, Mo., January 28, aged 56.

Guthrie Rider Winder, M.D., Long Island College Hospital, Brooklyn, 1898, of Brooklyn, N. Y., died January 25, aged 26.

Joseph E. M. Chamberlaine, M.D., University of Maryland, 1849, died at his residence in Easton, Md., January 30, aged 74.

Luther P. Hess, M.D., Medical College of Indiana, Indianapolis, 1881, died at his home in Oakland, Cal., January 30, aged 57.

Shadrach L. Ferree, M.D., Medical College of Indiana, Indianapolis, 1870, died at his home in Indianapolis, January 30, aged 71.

Paul Jencke, M.D., Missouri Medical College, 1878, died from pneumonia, January 29, at his home in Linn, Mo.

Stephen Chandler Griggs, M.D., New York University, 1849, of Brooklyn, New York, died February 1, aged 81.

Seneca M. Bain, M.D., Tulane University, New Orleans. La., 1861, died at his home in Gatesville, Texas, January 22.

Miscellany.

Neurasthenia Not a Prerogative of the Cultured Classes.—Petren of Lund writes to the *Deu. Ztft. f. Nervenheilkunde* that it is an error to assume that neurasthenia is less frequent among the lower classes, the peasants, of Europe than among the cultured. He doubts whether modern civilization is responsible for the increase in nervous degeneration.

Traumatic Etiology of Malignant Tumors.—A recent thesis reviews the material in the Goettingen clinic for nineteen years—a total of 1767 cases of malignant tumors—and notes that in 45 there was a possibility of traumatic origin. This possibility was very slight in 21, which leaves only 24 in which the trauma had actual etiologic significance. This is a very small proportion compared with those reported by others: Wolff, 68 in 462 cases, or 14.7 per cent.; Liebe 28 in 271, or 13.3 per cent.; Rapok, 109 in 553, or 19.7 per cent.; Lengnick, 24 in 579, or 4.1 per cent., while Kempf, the author of the thesis in question, reviewed in the *Cbl. f. Chir.*, found only 45 in 1767, or 2.5 per cent.

Operating by Light from Automobile.—A correspondent of the *Boston Medical and Surgical Journal* (January 26) reports a new use for the electric automobile. A laparotomy having been necessitated in the evening, at a private house, where only open burning lights were available, and etherization was therefore dangerous, he attached a couple of incandescent lamps to his motor battery by insulated wire, thus performing the operation with ease and safety. He offers this experience as a suggestion of a possible enhanced value of the electric automobile to physicians, not only as a magazine of light when needed, but also for cauteries, therapeutic applications of currents, etc., and a similar use of the automobile has been made by others (Caldwell: The Journal, February 2. p. 344.)

Differentiation of Cancer and Liver Abscess by the Blood.—Boinet states that when the leucocytes—especially the polynucleated—are six to ten times more numerous than normally, it is a strong supporting testimony of the presence of an abscess in the liver. The *Sem. Méd.*. of January 2 cites cases in which the assumption of an abscess of this kind from the condition of the blood was confirmed by operation. Hartmann also calls attention to the blood as a means of differentiating carcinoma of the stomach. In one case in which the clinical evidence of carcinoma was unquestioned the contradictory testimony of the blood was disregarded and the stomach found intact. The health of the patient has been good since. In another case an ulcer of the stomach was assumed, but the blood and the laparotomy showed the lesion to be a carcinoma.

Therapeutics.

Treatment of Hereditary Syphilis of Nose and Throat.

In addition to the constitutional treatment, Casselberry advises attention to the bowels, diet and general health. As a local application to the ulcers he recommends the following:

R.	Iodini			
	Acidi tannici			
	Potassii iodidi, āā	ʒi	4	
	Glycerini	℥ss	16	
	Aquæ, q. s. ad	℥i	32	

M. Sig.: Apply to the ulcers directly with a cotton swab.

Pyle recommends the following in local treatment of hereditary syphilis:

R.	Acidi borici	gr. v		33
	Pot. permanganatis	gr. i		06
	Aquæ destil	℥i	32	

M. Sig.: Apply locally.

Or,

R.	Acidi carbol	gr. i		06
	Sodii bicarb	gr. vi		36
	Acidi borici	gr. v		30
	Aquæ	℥i	32	

M. Sig.: Locally to nasal passages.

The child should be placed in the nurse's lap and the naso pharynx plugged by means of a temporary sponge, the head slightly raised and the nose washed out with a fine syringe, spray or douche, too much force not being used.

OZENA DEPENDENT ON HEREDITARY SYPHILIS.

R.	Arsenici iodidi	gr. iii		18
	Hydrarg. biniodidi	gr. v		30
	Potassii iodidi	ʒi	4	
	Aquæ destil	℥iv	128	

M. Sig.: Four drops three times a day, to be increased according to age.

Fetid Rhinitis.

G. M. Leffert, in *Med. News*, recommends the daily use of the anterior and posterior nasal syringe, the removal of hard crusts with the forceps and washing thoroughly with one of the following alkaline and antiseptic solutions until all offensive secretions have been removed:

R.	Sodii boratis	ʒi	4	
	Glycer. acidi carbol	ʒiss	6	
	Aquæ destil	Oi	500	

M. Sig.: To be used as an atomizer.

Either of the following prescriptions may be used in the same manner:

R.	Acidi salicylici	gr. x		66
	Sodii bicarb	ʒi	4	
	Aquæ destil	Oi	500	

Or,

R.	Sodii boratis	ʒi	4	
	Sol. potas. permangan.—1 per cent	ʒiss	6	
	Aquæ destil	Oi	500	

To overcome the dryness of the mucous membrane follow the cleansing with a spray of liquid albolene.

Euquinin in Acute Nasal Catarrh.

Merck's Archives recommends euquinin in the following combination in acute rhinitis:

AS A PILL.

R.	Euquinin	gr. xxx	2	
	Liq. potassii arsenitis	m. x		66
	Solutionis atropinæ—1 per cent	m. iv		25
	Ext. gentianæ	gr. xx	1	33
	Pulveris acaciæ, q. s.			

M. Ft. pilulæ No. xii. Sig.: Take one pill every three hours.

AS A TABLET.

℞.	Euquinin	gr. x		66
	Atropinæ sulphatis	gr. 1/30		002
	Morphinæ sulphatis	gr. ss		03
	Camphoræ	gr. x		66

M. Ft. tabellæ No. xx. Sig.: One every half hour for six doses, or until throat feels dry, then one every two or three hours.

Euquinin is slightly bitter and can be given in doses of one and a half times that of quinin sulphate, administered in powder, capsule, soup, milk or cocoa.

Local Treatment of Diphtheria.

Sheffield recommends the following combinations in treatment of diphtheria:

℞.	Papainæ—glycerin extract	ʒiv	16	
	Acidi carbol.			
	Pulv. camphoræ, āā	gr. viii		50
	Alcoholis, q. s. ad sol.			
	Glycerini, q. s. ad	℥ii	64	

M. Sig.: This is to be applied to the throat by means of a cotton swab every two hours until abatement of the symptoms, then less frequently.

Or.

℞.	Hydrogeni peroxidi	ʒiv	16	
	Sodii boratis	ʒii	8	
	Glycerini	℥ii	64	
	Aquæ rosæ, q. s. ad	℥iv	128	

M. Sig.: One tablespoonful to be instilled into the nose every two hours while the diphtheric membrane is present.

Treatment of Follicular Pharyngitis.

Kyle states that, in the early stages of clergyman's sore throat, where permanent structure change has not taken place, he is in the habit of administering drugs that are eliminated by the mucous membrane. Under such circumstances he recommends the following:

℞.	Phosphori	gr. 1/6		01
	Iodini	gr. ii		12
	Bromini	gr. ii		12
	Vini xerici	℥ii	64	

M. Sig.: One teaspoonful three times a day.

A local application of chromic acid in twenty per cent. solution to each follicle, touching only a few at one time, may be made being careful to dry the part afterward with a piece of dry absorbent cotton. He recommends as a local application to the entire surface the following:

℞.	Olei pini sylvestris			
	Olei eucalypti, āā	gtt. v		30
	Menthol	gr. iv		25
	Tinct. benzoini	℥i	32	

M. Sig.: Apply locally every other day to stimulate the mucous membrane and promote resolution.

Treatment of Tuberculosis.

Flich, in *Med. Record*, states that in his opinion drugs containing iodin are the best, and that they are best given by inunction. He further states that the essential oils, and especially peppermint and thyme, unfit the tissues as soil for the propagation of the bacilli. Mendel recommends the following combination in treatment of tuberculosis:

℞.	Olei thymi			
	Olei eucalypti			
	Olei cinnamomi, āā	gtt. lxxx	52	
	Iodoformi	gr. xv	1	
	Olei olivæ steril	℥iiiss	112	

M. Sig.: Introduce 45 minims into the trachea by means of a long-curved syringe.

Nocturnal Incontinence of Urine.

Stumpf, in *Jour. of Med. and Science*, recommends that the child lie in such a position that the head is lower than the hips, so that the urine will not flow into the urethra, and thus irritate and excite the urethral sphincter. He states that after such postural treatment for three weeks the usual position in bed may be resumed.

Guaiacol in Chronic Cystitis.

Gabriel Colin, in *Jour. de Méd. de Paris*, advises the following formula in chronic cystitis of tuberculous origin:

℞.	Guaiacol	ʒi	4	
	Ol. amygdalæ dulcis—sterilized	ʒiiss	80	

M. Sig.: Inject from a quarter to half a teaspoonful into the bladder once or twice a day.

Chronic Prostatitis.

Freudenberg, in the same journal, recommends the following suppository:

℞.	Ichthyol	gr. v to xii		33--72
	Olei theobromatis	gr. l	3	33

M. Ft. suppository. Sig.: One such suppository to be inserted twice a day, night and morning, after evacuation of the bowels. If a movement occurs in the middle of the day, a third suppository may be used after it.

Treatment of Varicose Veins.

Woodward, in the *Clinique*, states that obliteration of the vein should first be made and if eczema exists over the area of induration and edema he advises the parts to be washed in a solution of bichlorid and carbolic acid morning and evening, and the following ointment applied:

℞.	Olei picis	ʒss	2	
	Zinci oxidi	℥ii	64	

M. Sig.: Apply locally night and morning.

If an exudate and blebs appear the following is preferable:

℞.	Acidi tannici	gr. v		30
	Bismuthi subnitratis	ʒss	2	
	Lanolini	℥i	32	

M. Sig.: Apply locally.

Where radical measures are refused by the patient, or in old subjects, the recumbent posture and elastic bandages will improve the condition; in ulcerations dusting powders of boric acid, iodoform, bismuth subnitrate. A paste made of mild chlorid of mercury and sodium chlorid stimulates granulation tissue.

Infantile Colic.

Dr. P. F. Barbour, in *Pediatrics*, states that in colic of infants the use of warm enemata will generally remove the gas. The enema may contain a few drops of turpentine or half a teaspoonful of glycerin. Hot applications should be applied to the abdomen and the feet and hands kept warm. He also recommends small amounts of hot whisky and water with a drop of the essence of peppermint and a little sodium bicarbonate by the mouth. One of the following combinations is also recommended:

℞.	Spts. ammon. arom	m. vi		36
	Sodii bicarb	gr. xii		72
	Syr. rhei aromatici	ʒi	4	
	Aquæ cari	℥iss	48	

M. Sig. One teaspoonful as required.

Or,

R.	Tinct. asafetidæ	m. xv	1	
	Olei cajuputi	m. ii		12
	Mag. carbonatis	ʒss	2	
	Syr. acaciæ	℥ss	16	
	Aquæ anisi	℥iss	48	

M. Sig.: One teaspoonful as required.

Enterocolitis (Mucomembranous) in Adults.

℞.	Magnesiæ (calcined)			
	Sulphuris loti			
	Potassii bitartratis, āā	ʒv	20	

M. Sig.: One teaspoonful before each meal.

Enteritis of Nursing Infants.

R.	Tannigeni	gr. x		66
	Acidi lactici	gr. xxx	2	
	Syrupi simplicis	℥i	32	
	Aquæ destil., q. s. ad	℥iii	96	

M. Sig.: One teaspoonful before each nursing.

—*Clinica Moderna.*

Tannigen should be given in much larger doses in order to derive the proper benefit from it. It can be given in doses ranging from three to five grains to infants.

Treatment of Atonic Ulcers by Hot Irrigations.

Kindler, in the *Centralblatt f. Chir.*, has treated with good results chronic ulcers by irrigations of two liters of water, as hot as could be borne, flowing with a drop of six feet. These irrigations were repeated two or three times a day and followed by dry rubbing with powdered iodoform or bismuth subgallate. He noted that chronic leg ulcers, perforating ulcers of tabes, the slow and progressive erosions of tertiary syphilis and phagadenic chancroids were thus cured in a very short time.

—*Ther. Gazette.*

Medicolegal.

Not Liable for Unhealthful Condition of Lockup.—The Supreme Court of Iowa holds, in the case of Lahner vs. the Incorporated Town of Williams, that a municipal corporation is not liable in damages for injury to a person's health caused by his incarceration over night, without food or water or suitable protection against the cold, in a filthy and unhealthful lockup, under an arrest without legal cause or excuse, the acts complained of having been done by officers of the corporation in an attempt to enforce its police regulations.

Making Mismanagement of Physician a Defense to Crime.—In the homicide case of the State of Iowa vs. Wood it appeared that certain injuries had been inflicted on the 11th of the month. Up to the 6th of the following month the victim of the injuries had improved in health. Then his physician temporarily left the state. Another was called on the 11th, and soon thereafter empyema set in, resulting in death on the 24th. The defendant insisted that the evidence tended to show that, but for mismanagement on the part of this second physician, or those caring for the injured man, he might have recovered: and that the jury should have been instructed, if they so found, that the defendant could not be convicted of manslaughter. But not so thinks the Supreme Court of Iowa. In affirming a judgment of conviction, it holds that to warrant escape for the killing, the subsequent mismanagement or neglect must have been the sole cause of death, and that the jury was rightly instructed that, if the injuries inflicted by the defendant directly contributed to produce empyema, causing death, he was guilty of taking the life of the deceased, while if these did not so contribute, he could not be convicted of murder or manslaughter. No principle, it declares, is better settled than that he who, by his wrongful act, accelerates or hastens death, or contributes to its cause, is guilty of homicide; and whether this be murder of manslaughter necessarily depends on the intent or motive by which the person making it was actuated.

Charitable Hospital Owned by Individual is Taxable.—The state constitution of North Dakota provides that "the legislative assembly shall, by a general law, exempt from taxation property used exclusively for school, religious, cemetery, or charitable purposes." The legislature, in describing the property exempt from taxation, enumerated: "All buildings belonging to institutions of purely public charity, including public hospitals, together with the land actually occupied by such institutions, not leased or otherwise used with a view to profit," etc. Now, the constitutional provision, the Supreme Court of North Dakota holds, Engstad vs. Grand Forks County, does not of its own force operate to exempt any property from taxation, is not self-executing; and, under the statute, real estate which is used exclusively for purposes of purely public charity, but which is not owned by an "institution," is not exempt from taxation. Hence, it holds that there is no law in the state which exempts from taxation a hospital, and the land upon which it is erected, when the same is conducted solely by one individual, who owns the same, and who operates it for public charity exclusively. In fact, it declares that real estate which belongs to but one individual, a natural person, can not, under any circumstances, be entitled to exemption from taxation under the statute. Nor does it consider the statute repugnant to the constitution because it is narrower in its terms, or because it limits the exemption of real estate used for charitable purposes to such real estates as is devoted to purely public charitable uses, and then only to such as belongs to an "institution."

Insanity Produced by Epilepsy.—In the murder case of State vs. Wright, where one of the special defenses was insanity produced by epilepsy, the Supreme Court of Iowa not only says that alienists universally recognize epilepsy as one of the most frequent causes of mental disturbance, but that the possible effect of epilepsy on the general mental condition is within the knowledge of all courts who have come in contact with the disease in the trial of cases involving mental unsoundness. Continuing, it states that, in determining the mental condition of a person at a given time, it becomes of the utmost importance to know his mental condition before that time, and to know also the effect of previous attacks of the disease, and whether or not they have left traces of an alteration of the intellectual functions. And, indeed, it declares, it takes it to be the rule that, in all cases involving the question of mental capacity, it is competent to go into the minutest details of the personal history of the one who is claimed to be mentally afflicted. Likewise, it deems it proper to show his physical and mental condition after the transaction in question. It also holds that, the defendant having shown by a certain physician that he had treated a sister of defendant for epilepsy, it was error not to allow him to show when. Moreover, one of the questions for the jury to determine being whether the defendant was drunk or in a fit of epilepsy when the fatal shot was fired, the court holds that the testimony of a witness offered to show the defendant's appearance, color of his face, etc., when drinking, and within a short time thereafter, was improperly refused. It holds that if the defendant was at the time temporarily insane, and his mental condition was caused by epilepsy, and if the attack may have been produced by drug in the liquor given him, it could not be said that he would be responsible for his act, though there may have been intoxication. But it does not consider the victim's dying declaration, that he did not think the defendant intended to shoot him, but thought that he was crazy, admissible in evidence, there being nothing in the evidence to show that this was his deliberate opinion, based on any facts which he had recited, the statement being but an opinion to which he could not have testified without giving to the jury the facts upon which he based his opinion.

United States Supreme Court on Cigarettes.—The Supreme Court of the United States holds constitutional, in the case of Austin vs. the State of Tennessee, the act of that state making it a misdemeanor punishable by a fine of not less than $50 for any person, firm, or corporation to sell, offer to sell, or to bring into the state for the purpose of selling, giving away, or otherwise disposing of, any cigarettes, cigarette paper, or substitute for the same. It first, however, insists that whatever product has from time immemorial been recognized by custom or law as a fit subject for barter or sale, particularly if its manufacture has been made the subject of Federal regulation and taxation, must be recognized as a legitimate article of commerce, although it may to a certain extent be within the police power of the states, and that of this class of cases is tobacco. It admits that the effects of tobacco may be injurious to some, but thinks that its extensive use over practically the entire globe is a remarkable tribute to its popularity and value. Anyhow, it is clearly of the opinion that tobacco can not be classed with diseased cattle or meats, decayed fruit, or other articles, the use of which is a menace to the health of the entire community. Cigarettes, it goes on to say, are but one of the numerous manufactures of tobacco, and it can not take judicial notice of the fact that it is more noxious in this form than in any other. Again, it says that they do not seem until recently to have attracted the attention of the public as more injurious than other forms of tobacco; nor, it says, is it prepared to take judicial notice of any special injury resulting from their use or to indorse the opinion of the Supreme Court of Tennessee that "they are inherently bad and bad only." At the same time, it declares that it should be shutting its eyes to what is constantly passing before them were it to affect an ignorance of the fact that a belief in their deleterious effects, particularly upon young people, has become very general, and that communications are constantly finding their way into the public press denouncing their use as fraught with great danger to the youth of both sexes. And, without undertaking to affirm or deny their evil effects, it thinks it within the province of the legislature to say how far they may be sold, or to prohibit their sale entirely, after they have been taken from the original packages or have left the hands of the importer, provided no discrimination be used as against such as are imported from other states, and that there be no reason to doubt that the act in question is designed for the protection of the public health. Moreover, it holds that a paper package of 3 inches in length and 1½ inches in width, containing ten cigarettes, is not an original package protected by the Constitution of the United States against any interference by the states while in the hands of the importer. Nor, it says, in the course of its opinion, can it deny to the legislature the power to impose restrictions upon the sale of noxious or poisonous drugs, such as opium and other similar articles, extremely valuable as medicines, but baneful to the habitual user.

Permanency in Practice as Evidence of Qualification.—The Supreme Court of Iowa holds, in the case of State vs. Blair, that the nature and extent of the qualifications required of practitioners of medicine are primarily for the determination of the legislature. No objection can be urged because of their severity, if appropriate to the profession, and attainable by reasonable study and application. They deprive no one of the right to practice medicine so long as all that is exacted is that every one who assumes to do so shall be possessed of the requisite knowledge and skill, and that this be evidenced by a certificate of the board designated by the state to ascertain his fitness. Nor does it consider unconstitutional the provision of the Iowa Code making one of the ways in which qualification might be evidenced prior to Jan. 1, 1899, that the physician had "been in practice in this state for five consecutive years, three of which time shall have been in one locality." It says that the statute recognizes that actual experience in the practice of medicine tends to render the physician capable. Success therein denotes the possession of learning and skill. Continuing in the profession several years in a particular locality indicates a degree of merit not likely to be found in a person moving from place to place. Indeed, it declares, it is a matter of general observation that the itinerant doctor, roving about, without remaining in one locality longer than a few days or weeks, is usually wanting in honesty, and too frequently but a charlatan or quack. Besides, such a professional residence affords the opportunity of becoming known by neighbors, and, if lacking in capacity or character, obstacles may be interposed to the issuance of a certificate; for it must not be overlooked that, notwithstanding continuous practice in one place, a certificate may be denied, owing to incompetency or immorality. In practical operation, the law admits those to practice who have followed the profession at one place long enough to acquire knowledge through experience in the profession, and to become known, unless want of capacity or good character affirmatively appears. Others must be examined or present diplomas. It makes a distinction recognized in all the affairs of life. And if, within the ordinary experience of men, and as a matter of common observation, physicians of learning, skill, and character are generally permanently located, and seldom change the place where their profession is followed, as appears to be true, the court says it can discover no tenable reason why this circumstance might not be treated by the legislature as evidence of qualification under the statute. In short, it thinks the distinction of the Iowa Code in this regard neither arbitrary nor unreasonable, but in harmony with common knowledge of differences which ordinarily exist between persons following the medical profession who have a permanent locus in quo, and those who do not. It adds that it is not unmindful that the Supreme Court of New Hampshire, in construing a somewhat similar statute, has held to the contrary, appearing to have grounded its conclusion on the erroneous assumption that permanency in the practice in a locality furnishes no evidence of qualification. But this, it says it has undertaken here to demonstrate, is not warranted.

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℞.	Guaiacol	ʒi	4	
	Ol. amygdalæ dulcis—sterilized	ʒiiss	80	

M. Sig.: Inject from a quarter to half a teaspoonful into the bladder once or twice a day.

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℞.	Ichthyol	gr. v to xii		33--72
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℞.	Olei picis	ʒss	2	
	Zinci oxidi	℥ii	64	

M. Sig.: Apply locally night and morning.

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℞.	Acidi tannici	gr. v		30
	Bismuthi subnitratis	ʒss	2	
	Lanolini	℥i	32	

M. Sig.: Apply locally.

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	Sodii bicarb	gr. xii		72
	Syr. rhei aromatici	ʒi	4	
	Aquæ cari	℥iss	48	

M. Sig. One teaspoonful as required.

Or.

℞.	Tinct. asafetidæ	m. xv	1	
	Olei cajuputi	m. ii		12
	Mag. carbonatis	ʒss	2	
	Syr. acaciæ	℥ss	16	
	Aquæ anisi	℥iss	48	

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Enterocolitis (*Mucomembranous*) in Adults.

℞.	Magnesiæ (calcined)			
	Sulphuris loti			
	Potassii bitartratis, āā	ʒv	20	

M. Sig.: One teaspoonful before each meal.

Enteritis of Nursing Infants.

℞.	Tannigeni	gr. x		66
	Acidi lactici	gr. xxx	2	
	Syrupi simplicis	℥i	32	
	Aquæ destil., q. s. ad	℥iii	96	

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Making Mismanagement of Physician a Defense to Crime.—In the homicide case of the State of Iowa vs. Wood it appeared that certain injuries had been inflicted on the 11th of the month. Up to the 6th of the following month the victim of the injuries had improved in health. Then his physician temporarily left the state. Another was called on the 11th, and soon thereafter empyema set in, resulting in death on the 24th. The defendant insisted that the evidence tended to show that, *but for mismanagement on the part of this second physician, or* those caring for the injured man, he might have recovered: and that the jury should have been instructed, if they so found, *that the defendant could not be convicted of manslaughter.* But not so thinks the Supreme Court of Iowa. In affirming a judgment of conviction, it holds that to warrant escape for the killing, the subsequent mismanagement or neglect must have been the sole cause of death, and that the jury was rightly instructed that, if the injuries inflicted by the defendant directly contributed to produce empyema, causing death, he was guilty of taking the life of the deceased, while if these did not so contribute, he could not be convicted of murder or manslaughter. No principle, it declares, is better settled than that he who, by his wrongful act, accelerates or hastens death, or contributes to its cause, is guilty of homicide; and whether this be murder of manslaughter necessarily depends on the intent or motive by which the person making it was actuated.

Charitable Hospital Owned by Individual is Taxable.—The state constitution of North Dakota provides that "the legislative assembly shall, by a general law, exempt from taxation property used exclusively for school, religious, cemetery, or charitable purposes." The legislature, in describing the property exempt from taxation, enumerated: "All buildings belonging to institutions of purely public charity, including public hospitals, together with the land actually occupied by such institutions, not leased or otherwise used with a view to profit." etc. Now, the constitutional provision, the Supreme Court of North Dakota holds, Engstad vs. Grand Forks County, does not of its own force operate to exempt any property from taxation, is not self-executing; and, under the statute, real estate which is used exclusively for purposes of purely public charity, but which is not owned by an "institution," is not *exempt from* taxation. Hence, it holds that there is no law in the state which exempts from taxation a hospital, and the land upon which it is *erected, when the same is conducted* solely by one individual, who owns the same, and who operates it for public charity exclusively. In fact, it declares that real estate which belongs to but one individual, a natural person, can not, under any circumstances, be entitled to exemption from taxation under the statute. Nor does it consider the statute repugnant to the constitution because it is narrower in its terms, or becvause it limits the exemption of real estate used for charitable purposes to such real estates as is devoted to purely public charitable uses, and then only to such as belongs to an "institution."

Insanity Produced by Epilepsy.—In the murder case of State vs. Wright, where one of the special defenses was insanity produced by epilepsy, the Supreme Court of Iowa not only says that alienists universally recognize epilepsy as one of the most frequent causes of mental disturbance, but that the possible effect of epilepsy on the general mental condition is within the knowledge of all courts who have come in contact with the disease in the trial of cases involving mental unsoundness. Continuing, it states that, in determining the mental condition of a person at a given time, it becomes of the utmost importance to know his mental condition before that time, and to know also the effect of previous attacks of the disease, and whether or not they have left traces of an alteration of the intellectual functions. And, indeed, it declares, it takes it to be the rule that, in all cases involving the question of mental capacity, it is competent to go into the minutest details of the personal history of the one who is claimed to be mentally afflicted. Likewise, it deems it proper to show his physical and mental condition after the transaction in question. It also holds that, the defendant having shown by a certain physician that he had treated a sister of defendant for epilepsy, it was error not to allow him to show when. Moreover, one of the questions for the jury to determine being whether the defendant was drunk or in a fit of epilepsy when the fatal shot was fired, the court holds that the testimony of a witness offered to show the defendant's appearance, color of his face, etc., when drinking, and within a short time thereafter, was improperly refused. It holds that if the defendant was at the time temporarily insane, and his mental condition was caused by epilepsy, and if the attack may have been produced by drug in the liquor given him, it could not be said that he would be responsible for his act, though there may have been intoxication. But it does not consider the victim's dying declaration, that he did not think the defendant intended to shoot him, but thought that he was crazy, admissible in evidence, there being nothing in the evidence to show that this was his deliberate opinion, based on any facts which he had recited, the statement being but an opinion to which he could not have testified without giving to the jury the facts upon which he based his opinion.

United States Supreme Court on Cigarettes.—The Supreme Court of the United States holds constitutional, in the case of Austin vs. the State of Tennessee, the act of that state making it a misdemeanor punishable by a fine of not less than $50 for any person, firm, or corporation to sell, offer to sell, or to bring into the state for the purpose of selling, giving away, or otherwise disposing of, any cigarettes, cigarette paper, or substitute for the same. It first, however, insists that whatever product has from time immemorial been recognized by custom or law as a fit subject for barter or sale, particularly if its manufacture has been made the subject of Federal regulation and taxation, must be recognized as a legitimate article of commerce, although it may to a certain extent be within the police power of the states, and that of this class of cases is tobacco. It admits that the effects of tobacco may be injurious to some, but thinks that its extensive use over practically the entire globe is a remarkable tribute to its popularity and value. Anyhow, it is clearly of the opinion that tobacco can not be classed with diseased cattle or meats, decayed fruit, or other articles, the use of which is a menace to the health of the entire community. Cigarettes, it goes on to say, are but one of the numerous manufactures of tobacco, and it can not take judicial notice of the fact that it is more noxious in this form than in any other. Again, it says that they do not seem until recently to have attracted the attention of the public as more injurious than other forms of tobacco; nor, it says, is it prepared to take judicial notice of any special injury resulting from their use or to indorse the opinion of the Supreme Court of Tennessee that "they are inherently bad and bad only." At the same time, it declares that it should be shutting its eyes to what is constantly passing before them were it to affect an ignorance of the fact that a belief in their deleterious effects, particularly upon young people, has become very general, and that communications are constantly finding their way into the public press denouncing their use as fraught with great danger to the youth of both sexes. And, without undertaking to affirm or deny their evil effects, it thinks it within the province of the legislature to say how far they may be sold, or to prohibit their sale entirely, after they have been taken from the original packages or have left the hands of the importer, provided no discrimination be used as against such as are imported from other states, and that there be no reason to doubt that the act in question is designed for the protection of the public health. Moreover, it holds that a paper package of 3 inches in length and 1½ inches in width, containing ten cigarettes, is not an original package protected by the Constitution of the United States against any interference by the states while in the hands of the importer. Nor, it says, in the course of its opinion, can it deny to the legislature the power to impose restrictions upon the sale of noxious or poisonous drugs, such as opium and other similar articles, extremely valuable as medicines, but baneful to the habitual user.

Permanency in Practice as Evidence of Qualification.—The Supreme Court of Iowa holds, in the case of State vs. Blair, that the nature and extent of the qualifications required of practitioners of medicine are primarily for the determination of the legislature. No objection can be urged because of their severity, if appropriate to the profession, and attainable by reasonable study and application. They deprive no one of the right to practice medicine so long as all that is exacted is that every one who assumes to do so shall be possessed of the requisite knowledge and skill, and that this be evidenced by a certificate of the board designated by the state to ascertain his fitness. Nor does it consider unconstitutional the provision of the Iowa Code making one of the ways in which qualification might be evidenced prior to Jan. 1, 1899, that the physician had "been in practice in this state for five consecutive years, three of which time shall have been in one locality." It says that the statute recognizes that actual experience in the practice of medicine tends to render the physician capable. Success therein denotes the possession of learning and skill. Continuing in the profession several years in a particular locality indicates a degree of merit not likely to be found in a person moving from place to place. Indeed, it declares, it is a matter of general observation that the itinerant doctor, roving about, without remaining in one locality longer than a few days or weeks, is usually wanting in honesty, and too frequently but a charlatan or quack. Besides, such a professional residence affords the opportunity of becoming known by neighbors, and, if lacking in capacity or character, obstacles may be interposed to the issuance of a certificate; for it must not be overlooked that, notwithstanding continuous practice in one place, a certificate may be denied, owing to incompetency or immorality. In practical operation, the law admits those to practice who have followed the profession at one place long enough to acquire knowledge through experience in the profession, and to become known, unless want of capacity or good character affirmatively appears. Others must be examined or present diplomas. It makes a distinction recognized in all the affairs of life. And if, within the ordinary experience of men, and as a matter of common observation, physicians of learning, skill, and character are generally permanently located, and seldom change the place where their profession is followed, as appears to be true, the court says it can discover no tenable reason why this circumstance might not be treated by the legislature as evidence of qualification under the statute. In short, it thinks the distinction of the Iowa Code in this regard neither arbitrary nor unreasonable, but in harmony with common knowledge of differences which ordinarily exist between persons following the medical profession who have a permanent locus in quo, and those who do not. It adds that it is not unmindful that the Supreme Court of New Hampshire, in construing a somewhat similar statute, has held to the contrary, appearing to have grounded its conclusion on the erroneous assumption that permanency in the practice in a locality furnishes no evidence of qualification. But this, it says it has undertaken here to demonstrate, is not warranted.

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Medical Society of City Hospital Alumni, St. (Mo.).—At the annual meeting of this Society, held De 20, the following officers were elected for the ensuing Norvelle Wallace Sharpe, president; Dr. Francis L. vice-president; Dr. John Green, Jr., secretary, and Dr. W. Soper, treasurer. At a special meeting, held Ja Mr. Charles F. Longfellow, superintendent of public exhibited the plans for the buildings of the new city

Westchester County (N. Y.) Medical Associ members of the Fifth District Branch of the New Medical Association, residing in Westchester Co organization at Portchester, January 22. The called to order by Dr. Frederick Holme Wiggin, City, who explained the plan of organization of, and attention to the by-laws of, the state association organization and government of the county associ some remarks on the same subject, by Dr. John A. W York City, president of the state association, and by Syms, president of the New York County Associatio ward F. Brush, Mount Vernon, was elected tem man. The following officers were then elected for year: Dr. Norton J. Sands, Portchester, presiden Lindsay Porteous, Yonkers, vice-president, and Dr. D MacPhail, Purdy Station, secretary and treasurer. F. Brush, Mount Vernon, was elected Fellow of the sociation as delegate to The American Medical As and Dr. H. Eugene Smith, Mount Vernon, alternate fe delegate.

PHILADELPHIA ACADEMY OF SURGERY.

Meeting held January 7.

Wounds of Venous Sinuses of the Brain.

Dr. Henry R. Wharton delivered the annual address, on thi subject, based on examinations of 70 cases; his personal experiences had been limited to 5 cases.

He cited the case of a boy 12 years old, who had been struck on the occipital bone, a depressed fracture resulting without any marked immediate symptoms, though they appeared the following day, justifying an operation, which revealed that the sinus in this region had been injured, as profuse hemorrhage occurred. Death subsequently followed.

In a second patient, 22 years of age, who had sustained a depressed fracture of the occipital bone, this was elevated, terminating in recovery.

Another case was caused by a compound depressed fracture of the right parietal bone, and at the operation very profuse hemorrhage occurred; recovery followed.

A fourth patient had sustained a fall, striking on the head, but without any immediate symptoms, as he was afterward able to get up and walk into the house. Next day symptoms of compression appeared and he became partially paralyzed on the left side. On the right parietal bone was found a hematoma, and at the time it was not believed that a fracture of the bone had occurred. An operation was done, the hemorrhage controlled by gauze packing, and the patient recovered.

A male of 18 years, who had been struck on the head by a bucket, afforded the fifth case. He sustained a depressed fracture of the right parietal bone, and on removing the fragments of bone there was severe hemorrhage, controlled by gauze packing; recovery followed.

Summarizing the results obtained in the treatment, as shown by the literature on the subject, it might be said that wounds of the venous sinuses of the brain are of infrequent occurrence on account of the protection afforded. In the 70 cases recorded the superior longitudinal sinus was most frequently injured, the lateral next, then the straight, and lastly the cavernous sinus. Of the 70 recovery occurred in 25 per cent. In some instances hemorrhage resulting from the injury of these sinuses was beneficial, as pressure symptoms might be thus prevented. Wounds of these sinuses generally result from direct violence, as gunshot wounds, injuries during childbirth, etc. Some of the older writers did not regard the prognosis as dangerous. Intracranial hemorrhage was present in 26 per cent. of the above 70 cases. If hemorrhage does not occur it may give rise to a blood clot, causing compression. Air embolism was the cause of death following an operation in two instances. A thrombus may occur at the site of injury.

The symptoms of wounds in these sinuses are not always prominent. Those present were generally found to be due to pressure or were symptoms resembling those of apoplexy. If the pia be torn the blood will accumulate under the dura mater. Unconsciousness is not generally present.

As to the diagnosis, sometimes the character of the blood may determine it, especially when attended by injury in the region of one of the sinuses and when attended by symptoms of compression.

The treatment varies. In depressed fractures trephining should be done and the bone removed. To control hemorrhage different methods have been tried. The best is by gauze packing. Others have used the lateral suture method, some the ligature and Dr. W. J. Taylor once applied hemostatic forceps, controlling the hemorrhage. The gauze may contain iodoform or simply be sterilized. The strips should be about two inches in width and should remain in position from three to six days. The very greatest care should be used to prevent sepsis.

Dr. O. H. Allis stated that the diagnosis is uncertain. In some cases he had seen prominent symptoms had not been present. In one of severe injury of the head he had at the autopsy noticed thousands of minute hemorrhages. In injuries of the head he considers it best to shave the entire head so the parts can be better examined.

Dr. W. G. Porter reported seeing one case of wound of the longitudinal sinus resulting from a puncture of a hay-rake, and had been astonished at the amount of gauze that could be inserted without causing pressure symptoms in sinus injuries.

Dr. R. H. Harte had been convinced that these wounds were rare, but in these he would not include such injuries as a severe crush of the skull, as in railroad injuries. In 20 cases of fracture of the skull, which he had seen within the past three months, there had been no wound of the sinuses, and of 114 of fracture of bones of the skull there had been but 1, and that a pin-point puncture. As to suturing large veins, he believes it often saves life, and in one instance he sutured a wound of the jugular vein with success.

Dr. W. L. Rodman had been surprised at the infrequency of wounds of the sinuses of the brain, since fractures in this region are so common. He had only seen 2 such cases. He believes that pyemia is a frequent cause of death in these injuries, and urged early operation. For controlling hemorrhage he considered gauze packing the best, but he had in one instance used the lateral ligature.

Dr. Thomas R. Neilson had seen 3 cases of injuries of the venous sinuses of the brain, 2 of the lateral and 1 of the inferior longitudinal sinus. He had used the gauze packing.

Dr. W. J. Taylor had seen two of the patients reported by Dr. Wharton. In one, when one of the small spicules of bone was removed there was a sudden gush of blood. He believes that a sudden loss of blood from the brain is a more serious matter than the same amount of blood from some other portion of the body.

Dr. R. G. Leconte did not understand why hemorrhage from the vein in this region should be so fatal. If it were arterial blood, then it might be a different matter.

Dr. G. G. Davis thought that probably injuries of the sinuses of the brain occur more frequently than one might think, as reported by the previous speakers. As to hemorrhage in head injuries, it might easily occur from the middle meningeal artery. In other cases it might be from the pia mater, giving rise to subdural hemorrhage, and either might cause pressure symptoms. In one instance he had treated what he believed to be a wound of the cavernous sinus resulting from a fall, the patient striking on the frontal bone. The wound was packed with gauze and the man recovered.

Dr. de Forest Willard had seen 3 cases of wounds of the venous sinuses of the brain, 2 of which were injuries of the superior longitudinal, and 1 of the lateral sinus. He is inclined to the belief that hemorrhage from the brain is not such a very serious matter.

PHILADELPHIA PATHOLOGICAL SOCIETY.

Meeting held January 10.

President, Dr. F. A. Packard, in the chair.

Dr. Joseph McFarland presented a specimen of "Epithelioma of the Mouth and Skin of a White Catfish," also a "Case of Thrombosis of all Four Chambers of the Heart."

Hourglass Contraction of Stomach.

Dr. Ida Richardson and J. D. Steele exhibited an hourglass contraction of the stomach.

Dr. Joseph McFarland stated that he had seen two cases of this condition, usually considered to be of congenital origin.

Dr. F. A. Packard had also seen a similar case to that presented, also undoubtedly of congenital origin.

Dr. David Riesman thought that, as the stomach is simply a tube formed from the hypoblastic tissue, an examination of the tissues might tell whether it had the characteristics of the bowel, or whether the glandular structures of the normal stomach were present.

Dr. Steele said that most writers are of the opinion that such conditions arise from a scar causing contraction.

Nerve-Fibers in the Pia and Cord Regeneration.

Drs. F. X. Dercum and William G. Spiller read a paper on this subject. Dr. Spiller said that the existence of medullated nerve-fibers in the spinal cord is a very rare condition. In the instance reported they had been found in the pia. There had been no degeneration in the posterior roots, and the columns of Goll had been only slightly degenerated. From the existence of many nuclei along the outer layers the sheath of Schwann might also have been present. In this case there had been no evidences of restoration of function in the spinal cord.

Dr. D. J. McCarthy stated that in a case of adiposa dolorosa examined there had been no regeneration in the cord.

Aspergillus in Urine.

Dr. L. Napoleon, Boston, read a paper entitled "Cultivation of the Aspergillus in Urine." At the Philadelphia Hospital he had frequently met with this micro-organism, and had cultivated it on diabetic urine. Aspergillus grown on urine had never produced an alkaline reaction, but on sterile acid diabetic urine it had become alkaline on the sixth day.

Diagnosis of Rabies.

Drs. M. P. Ravenel and D. J. McCarthy read a paper entitled "The Rapid Diagnosis of Rabies," a continuation of the communication presented last June. Formerly, in making a diagnosis of this condition, from two to four weeks were required. His method of preparing the specimens is to fix the tissues in 10 per cent. formalin, and afterward harden them in absolute alcohol for twelve hours, then carrying them through chloroform, imbedded in paraffin and stained with Weigert's methylene blue, or with eosin and hematoxylin. He has examined 28 cases of rabies occurring in dogs, horses and other lower animals, and in 19 out of 21 he has been able to find the rabid tubercle as well as the chromatolysis heretofore described.

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Orleans Parish (La.) Medical Society.—At the meeting of this Society, held January 26, Dr. E. Denegre Martin, New Orleans, read a paper on spinal anesthesia, in which he advocated the theory that disturbance of the cerebrospinal fluid causes the unpleasant after-effects of this mode of anesthesia and suggested the use of small quantities of more concentrated solutions—4 minims of a 5 per cent. solution—as likely to cause the minimum of such disturbance.

Medical Society of City Hospital Alumni, St. Louis (Mo.).—At the annual meeting of this Society, held December 20, the following officers were elected for the ensuing year: Dr. Norvelle Wallace Sharpe, president: Dr. Francis L. Reder, vice-president; Dr. John Green, Jr., secretary, and Dr. Horace W. Soper, treasurer. At a special meeting, held January 31, Mr. Charles F. Longfellow, superintendent of public buildings, exhibited the plans for the buildings of the new city hospital.

Westchester County (N. Y.) Medical Association.—The members of the Fifth District Branch of the New York State Medical Association, residing in Westchester County, met for organization at Portchester, January 22. The meeting was called to order by Dr. Frederick Holme Wiggin, New York City, who explained the plan of organization of, and also called attention to the by-laws of, the state association regulating the organization and government of the county associations. After some remarks on the same subject, by Dr. John A. Wyeth, New York City, president of the state association, and by Dr. Parker Syms, president of the New York County Association, Dr. Edward F. Brush, Mount Vernon, was elected temporary chairman. The following officers were then elected for the ensuing year: Dr. Norton J. Sands, Portchester, president; Dr. J. Lindsay Porteous, Yonkers, vice-president, and Dr. Donald D. T. MacPhail, Purdy Station, secretary and treasurer. Dr. Edward F. Brush, Mount Vernon, was elected Fellow of the State Association as delegate to The American Medical Association, and Dr. H. Eugene Smith, Mount Vernon, alternate fellow and delegate.

PHILADELPHIA ACADEMY OF SURGERY.

Meeting held January 7.

Wounds of Venous Sinuses of the Brain.

Dr. Henry R. Wharton delivered the annual address, on this subject, based on examinations of 70 cases; his personal experiences had been limited to 5 cases.

He cited the case of a boy 12 years old, who had been struck on the occipital bone, a depressed fracture resulting without any marked immediate symptoms, though they appeared the following day, justifying an operation, which revealed that the sinus in this region had been injured, as profuse hemorrhage occurred. Death subsequently followed.

In a second patient, 22 years of age, who had sustained a depressed fracture of the occipital bone, this was elevated, terminating in recovery.

Another case was caused by a compound depressed fracture of the right parietal bone, and at the operation very profuse hemorrhage occurred; recovery followed.

A fourth patient had sustained a fall, striking on the head, but without any immediate symptoms, as he was afterward able to get up and walk into the house. Next day symptoms of compression appeared and he became partially paralyzed on the left side. On the right parietal bone was found a hematoma, and at the time it was not believed that a fracture of the bone had occurred. An operation was done, the hemorrhage controlled by gauze packing, and the patient recovered.

A male of 18 years, who had been struck on the head by a bucket, afforded the fifth case. He sustained a depressed fracture of the right parietal bone, and on removing the fragments of bone there was severe hemorrhage, controlled by gauze packing; recovery followed.

Summarizing the results obtained in the treatment, as shown by the literature on the subject, it might be said that wounds of the venous sinuses of the brain are of infrequent occurrence on account of the protection afforded. In the 70 cases recorded the superior longitudinal sinus was most frequently injured, the lateral next, then the straight, and lastly the cavernous sinus. Of the 70 recovery occurred in 25 per cent. In some instances hemorrhage resulting from the injury of these sinuses was beneficial, as pressure symptoms might be thus prevented. Wounds of these sinuses generally result from direct violence, as gunshot wounds, injuries during childbirth, etc. Some of the older writers did not regard the prognosis as dangerous. Intracranial hemorrhage was present in 26 per cent. of the above 70 cases. If hemorrhage does not occur it may give rise to a blood clot, causing compression. Air embolism was the cause of death following an operation in two instances. A thrombus may occur at the site of injury.

The symptoms of wounds in these sinuses are not always prominent. Those present were generally found to be due to pressure or were symptoms resembling those of apoplexy. If the pia be torn the blood will accumulate under the dura mater. Unconsciousness is not generally present.

As to the diagnosis, sometimes the character of the blood may determine it, especially when attended by injury in the region of one of the sinuses and when attended by symptoms of compression.

The treatment varies. In depressed fractures trephining should be done and the bone removed. To control hemorrhage different methods have been tried. The best is by gauze packing. Others have used the lateral suture method, some the ligature and Dr. W. J. Taylor once applied hemostatic forceps, controlling the hemorrhage. The gauze may contain iodoform or simply be sterilized. The strips should be about two inches in width and should remain in position from three to six days. The very greatest care should be used to prevent sepsis.

Dr. O. H. Allis stated that the diagnosis is uncertain. In some cases he had seen prominent symptoms had not been present. In one of severe injury of the head he had at the autopsy noticed thousands of minute hemorrhages. In injuries of the head he considers it best to shave the entire head so the parts can be better examined.

Dr. W. G. Porter reported seeing one case of wound of the longitudinal sinus resulting from a puncture of a hay-rake, and had been astonished at the amount of gauze that could be inserted without causing pressure symptoms in sinus injuries.

Dr. R. H. Harte had been convinced that these wounds were rare, but in these he would not include such injuries as a severe crush of the skull, as in railroad injuries. In 20 cases of fracture of the skull, which he had seen within the past three months, there had been no wound of the sinuses, and of 114 of fracture of bones of the skull there had been but 1, and that a pin-point puncture. As to suturing large veins, he believes it often saves life, and in one instance he sutured a wound of the jugular vein with success.

Dr. W. L. Rodman had been surprised at the infrequency of wounds of the sinuses of the brain, since fractures in this region are so common. He had only seen 2 such cases. He believes that pyemia is a frequent cause of death in these injuries, and urged early operation. For controlling hemorrhage he considered gauze packing the best, but he had in one instance used the lateral ligature.

Dr. Thomas R. Neilson had seen 3 cases of injuries of the venous sinuses of the brain, 2 of the lateral and 1 of the inferior longitudinal sinus. He had used the gauze packing.

Dr. W. J. Taylor had seen two of the patients reported by Dr. Wharton. In one, when one of the small spicules of bone was removed there was a sudden gush of blood. He believes that a sudden loss of blood from the brain is a more serious matter than the same amount of blood from some other portion of the body.

Dr. R. G. LeConte did not understand why hemorrhage from the vein in this region should be so fatal. If it were arterial blood, then it might be a different matter.

Dr. G. G. Davis thought that probably injuries of the sinuses of the brain occur more frequently than one might think, as reported by the previous speakers. As to hemorrhage in head injuries, it might easily occur from the middle meningeal artery. In other cases it might be from the pia mater, giving rise to subdural hemorrhage, and either might cause pressure symptoms. In one instance he had treated what he believed to be a wound of the cavernous sinus resulting from a fall, the patient striking on the frontal bone. The wound was packed with gauze and the man recovered.

Dr. de Forest Willard had seen 3 cases of wounds of the venous sinuses of the brain, 2 of which were injuries of the superior longitudinal, and 1 of the lateral sinus. He is inclined to the belief that hemorrhage from the brain is not such a very serious matter.

PHILADELPHIA PATHOLOGICAL SOCIETY.

Meeting held January 10.

President, Dr. F. A. Packard, in the chair.

Dr. Joseph McFarland presented a specimen of "Epithelioma of the Mouth and Skin of a White Catfish," also a "Case of Thrombosis of all Four Chambers of the Heart."

Hourglass Contraction of Stomach.

Dr. Ida Richardson and J. D. Steele exhibited an hourglass contraction of the stomach.

Dr. Joseph McFarland stated that he had seen two cases of this condition, usually considered to be of congenital origin.

Dr. F. A. Packard had also seen a similar case to that presented, also undoubtedly of congenital origin.

Dr. David Riesman thought that, as the stomach is simply a tube formed from the hypoblastic tissue, an examination of the tissues might tell whether it had the characteristics of the bowel, or whether the glandular structures of the normal stomach were present.

Dr. Steele said that most writers are of the opinion that such conditions arise from a scar causing contraction.

Nerve-Fibers in the Pia and Cord Regeneration.

Drs. F. X. Dercum and William G. Spiller read a paper on this subject. Dr. Spiller said that the existence of medullated nerve-fibers in the spinal cord is a very rare condition. In the instance reported they had been found in the pia. There had been no degeneration in the posterior roots, and the columns of Goll had been only slightly degenerated. From the existence of many nuclei along the outer layers the sheath of Schwann might also have been present. In this case there had been no evidences of restoration of function in the spinal cord.

Dr. D. J. McCarthy stated that in a case of adiposa dolorosa examined there had been no regeneration in the cord.

Aspergillus in Urine.

Dr. L. Napoleon, Boston, read a paper entitled "Cultivation of the Aspergillus in Urine." At the Philadelphia Hospital he had frequently met with this micro-organism, and had cultivated it on diabetic urine. Aspergillus grown on urine had never produced an alkaline reaction, but on sterile acid diabetic urine it had become alkaline on the sixth day.

Diagnosis of Rabies.

Drs. M. P. Ravenel and D. J. McCarthy read a paper entitled "The Rapid Diagnosis of Rabies," a continuation of the communication presented last June. Formerly, in making a diagnosis of this condition, from two to four weeks were required. His method of preparing the specimens is to fix the tissues in 10 per cent. formalin, and afterward harden them in absolute alcohol for twelve hours, then carrying them through chloroform, imbedded in paraffin and stained with Weigert's methylene blue, or with eosin and hematoxylin. He has examined 28 cases of rabies occurring in dogs, horses and other lower animals, and in 19 out of 21 he has been able to find the rabid tubercle as well as the chromatolysis heretofore described.

The speaker detailed a case of a girl 8 years of age, who had been bitten on the ear by a dog supposed to be mad, six weeks previous to the onset of the symptoms. The wound had been cauterized by nitrate of silver and had healed promptly. On the appearance of the first manifestations the child complained of distress when her face was cleansed with a dampened towel. On attempting to swallow water, spasm of the muscles of the throat occurred. Later, fever developed, as did convulsive seizures, some of which were followed by periods of unconsciousness, and finally death. At the autopsy minute hemorrhages of the brain were found, and some of the material inoculated into rabbits and carried through four generations produced the disease. Cultures were repeatedly made but always remained sterile, proving that the micro-organism of this disease is different from that of any other type.

Dr. F. Krauss detailed the clinical history of this case. The child had never been informed that the bite of the dog had anything to do with her disease. The spasm of her throat was most intense, and the temperature ranged from 100 to 103. The condition conformed in all its symptoms to those detailed by Osler.

Bronchial Cyst.

Dr. W. M. L. Coplin reported a case of this condition in a patient of 36 years. It was operated on by Dr. W. W. Keen. Beginning three years ago, within eight months it had grown as large as an almond, and subsequently becoming painful the operation was decided on. The cyst was lined by epithelium resembling that of the pharyngeal mucosa and tonsils.

Infarcts from Enterocolitis.

Dr. William Pepper presented specimens of the liver, kidneys and spleen from a case of enterocolitis occurring in a child of three months of age. The liver showed a marked degree of fatty degeneration, and the kidneys exhibited a large number of hemorrhagic infarcts.

DENVER AND ARAPAHOE MEDICAL SOCIETY.

Regular Meeting held January 22.

Aneurysm of Innominate and Aorta. Insertion of Silver Wire. Recovery.

Dr. Leonard Freeman exhibited a patient who suffered from aneurysm of the innominate artery with involvement of the arch of the aorta. When the patient came under Dr. Freeman's observation, the right clavicle was dislocated from pressure of the aneurysm, the sternum was eroded, there was dyspnea due to pressure on the trachea, eye symptoms were present and aphonia. The administration of potassium iodid and the injection of gelatin were tried without effect. The aneurysm increased in size and all the symptoms became aggravated. In August, 1900, five feet of silver wire was introduced on an insulated needle, the negative pole of battery attached and 75 milliamperes of electricity used for half an hour. The needle was then removed. The improvement was slow, but steady. Only a slight heaving remains and the tumor is imperceptible. All the symptoms improved correspondingly. The voice returned; no dyspnea. Dr. Freeman reported a similar case in a man of 50 years of age. There was profuse hemorrhage on introducing the needle, which was checked as soon as the electric current was turned on.

Dr. John S. Miller in discussing the subject said that therapeutics has contributed very little to the cure of aneurysm, and we still look to surgery for its relief. Several years ago he ligated the common carotid and subclavian arteries for aneurysm of the innominate artery involving the arch of the aorta. The patient improved considerably, but died sixty days later, from rupture of the sac. The needle should be short, to facilitate the easy and prompt introduction of the wire. It should be directed away from the heart, so that the wire or its kinks may not enter the semilunar valves. If fifteen to twenty feet of wire can be introduced, it is all the better. He suggested that while the current is on the common carotid artery be compressed with a view to preventing the migration of any coagulum that might possibly become detached from the wire during its introduction.

Symposium on Recent Epidemic of Influenza.

Dr. W. C. Mitchell, in speaking of the bacteriology of influenza, dwelt on the importance of making bacteriologic examinations by which the advent of an epidemic may be predicted with certainty and the proper prophylactic measures adopted. He remarked that the bacteriologists of the Chicago Board of Health predicted an epidemic of influenza as early as November last, and then mentioned the tenacity with which the bacteria of Pfeiffer hold to the patient. He found the bacteria in 1898 in a patient who had influenza in 1895.

Dr. W. N. Beyzs, in speaking of the pathology of influenza, dwelt on the fact that in sporadic cases the mortality is greater than in epidemic cases.

Dr. G. E. Tyler believes in the contagiousness of the disease. The first case occurring in a family should be isolated, and the discharges disinfected. Sudden chilling and public assemblies should be avoided during epidemic.

Dr. C. B. Van Zant had observed, during the recent epidemic, cases simulating appendicitis and peritonitis. In one the rectum was involved and he noticed swelling of the lymphatic glands, while in another there was dysphagia out of proportion to slight involvement of the pharynx.

Dr. A. Zederbaum considered the recent epidemic as mild compared with that of 1889. He had observed a tendency to ear complications, and two cases in the same family were complicated with mastoiditis, and in one both mastoids had to be drained. His youngest patient was 9 months old, and the oldest 78 years.

Dr. C. D. Spivak had noticed a peculiar yellowish hue of the sclera in almost all of his patients, and in one the jaundice was universal. He mentioned the extraordinary loss of weight in all cases, and reported a case which during convalescence developed grave gastrointestinal sequelæ.

Dr. H. B. Whitney had administered 10 grains of quinin daily to all his patients. For the headache he gave phenacetin and caffein every hour, and codein for the pain; also strychnin freely. He has had but two complications in over one hundred treated.

Dr. William H. Bergtold said he had never used quinin. He considers the administration of a coal-tar preparation with salicylic acid almost specific, and prescribes phenacetin with salophen. The dose of salophen should be from 25 to 45 grains. He believes we will have, in the near future, an antitoxin serum for influenza. In the infectious types of influenza he uses Credé's ointment.

Dr. J. W. Hall dwelt on the uncertainty of prognosis in influenza complicated with pneumonia.

Dr. J. T. Eskridge divided the nervous symptoms into those occurring at the onset of the disease, accompanying it, and the sequelæ. He considers the nervous phenomena as a disease, not symptom. In one patient the disease was ushered in with delirium and death followed the next day. In another, optic neuritis developed early. Neurasthenia is a frequent sequela.

Dr. B. Oettinger reported a case of influenza complicated by abscess in the antrum.

Dr. R. Levy corroborated the statement of Dr. Zederbaum with reference to the prevailing complication of ear troubles.

Dr. M. Black had several cases of middle ear complication and advises early puncture of the drum. He used leeching with considerable advantage.

Dr. T. J. Gallagher decried the use of the nasal douches which give directions to hold the head backward and to close one nostril, for the use of this douche has caused many middle-ear inflammations.

DETROIT MEDICAL SOCIETY.

Meeting held Jan. 16.

Surgery of Purulent Otitis Media.

Dr. Emil Amberg gave a short sketch on this topic, with a demonstration of prepared specimens. He said that a paracentesis, as such, is practically harmless, and that danger accompanies only a delay. The curative value of the incision and the prophylactic were considered. An early paracentesis is especially indicated in otitis after influenza. The necessity of timely removal of a polypus is obvious. Diseased ossicles should be removed in order to get rid of a focus of infection, and also to make the epitympanic space more accessible to treatment. He pointed out that we frequently find general practitioners, and quite a number of oculists, speaking with a feeling composed of fear, impatience and disgust of the treatment of diseases of the ear. The teaching on ear diseases in general seems not to be carried out with the necessary thoroughness, and it is to be regretted that the combination, oculist and aurist, is still upheld in many parts of the country. We should prefer to be without the expression, "the personal equation of the surgeon." This term is intended to excuse the non-interference in cases requiring interference, if the physician is unable to take a hand. Nothing is more dangerous than an excuse based on hypothetic and unscientific reasons under so plain and simple circumstances. He described the various operations and showed a large number of prepared specimens illustrating the anatomy of the ear, the mastoid and the radical operation.

Non-Operative Treatment of Ear.

DR. EUGENE V. RIKER also read a paper, saying: One of the first things demanded of the physician by a person suffering from acute inflammation of the middle ear is relief from pain. If seen at the commencement, the patient should be put to bed, a saline cathartic administered, and dry heat applied. Avoid all kinds of oils, aqueous solutions and moist heat. Some recommend solutions of cocain, atrophin, and morphin, alone or in combination, but I cannot see how they can be absorbed when the drum is intact, for I have never been able to render a non-perforated drum insensible, even when there was marked inflammation present, by the use of the strongest solution of cocain. If the alkaloids are not absorbed the relief, if any, is due to the heat, which is far better supplied dry, for when water is poured into the ear and allowed to run out immediately, some is sure to remain in a depression in front of the drum and thus act as a poultice, which would favor the breaking down of tissue in rupture of the drum. Opium, in my mind, should seldom be used, for it is not possible at the outset to tell the nature of the infection, and in case of mastoid involvement it might mask the symptoms until it was too late for successful operative interference.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), January 26.

1 *Early Diagnosis of Mammary Tumors. George F. Shrady.
2 *Some Further Work on the Mosquito-Malaria Theory, with Special Reference to Conditions Around New York. William N. Berkeley.
3 *The Causation, Prevention, and Treatment of Gout. Alexander Haig.
4 *The Non-Myxematous Character of Nasal Polypi. Jonathan Wright.

Philadelphia Medical Journal, January 26.

5 Two Cases of Epiplopexy in Cirrhosis of the Liver. John B. Roberts.
6 *The Surgery of the Stomach. Albert I. Bouffleur.
7 *A Case of Ligature of the Innominate Artery for Aneurysms. S. P. Delaup.
8 *Branchial Cysts and Fistulæ. W. M. L. Coplin.
9 *Method for Rapid Elimination of the Gonococcus. Follen Cabot, Jr.
10 *Retardation of Growth as a Cause of Shortening After Coxitis. Henry Ling Taylor.
11 *A Report of a Case of Rabies. Frederick Krauss.

New York Medical Journal, January 26.

12 *Gastro-enterostomy by the Elastic Ligature. Theodore A. McGraw.
13 *Cereals, Emulsions and Proteids in Infant Feeding. T. M. Rotch.
14 *Septicemia—Acute Bacteremia; and Pyemia—Chronic Bacteremia. The Indications for Hysterectomy and the Indications for Abdominal Section and Drainage in Puerperal Infection. H. J. Boldt.
15 *Observations on Toxic Effects of Some Common Drugs. Philip F. Harvey.
16 *The Treatment of Influenza. W. H. Thomson.

Boston Medical and Surgical Journal, January 24.

17 A Short Abstract of the Early History of Medicine in Massachusetts to the Year 1800. Elbridge G. Cutler.
18 *The Great Toe (Babinski) Phenomenon: A Contribution to the Study of the Normal Plantar Reflex Based on the Observation of One Hundred and Fifty-six Healthy Individuals. Morton Prince.
19 A Case of Obliteration of the Right Ureter by a Calcified Fibroid; Removal of Fibroid and Implantation of the Ureter into the Bladder; Recovery. Maurice H. Richardson.
20 *A Case of Vesical Implantation of the Ureter by Dudley's Forceps Method After the Failure of Several Plastics. Edward Reynolds.
21 *Pregnancy Following Removal of Both Ovaries and Tubes. M. A. Morris.

Medical News (N. Y.), January 26.

22 *Lakewood as a Winter Resort. William G. Schauffler.
23 *The Climatic Treatment of Chronic Bright's Disease. James Tyson and T. Mellon Tyson.
24 *Treatment of Syphilis at Hot Springs, Ark. James T. Jelks.
25 *Some Topographical and Climatic Features of the Florida Peninsula, with Special Reference to Its Adaptiveness as a Winter Health Resort. James K. Crook.
26 *The Climatology of Neurasthenia. F. Savary Pearce.
27 *The Tonsils as Portals of Infection. Julius Ullman.

Cincinnati Lancet-Clinic, January 26.

28 *Etiology and Diagnosis of Acquired Heart Disease in Children. Alfred Friedlander.
29 *Resinol Dermatitis. A. Sydney Reynolds.

Virginia Medical Semi-Monthly (Richmond), January 11.

30 Malaria: Its Etiology, Symptoms, and Diagnosis. H. Stuart MacLean.
31 Locomotor Ataxia. Clifton Mayfield.
32 The Modern Cesarean Section. Edward P. Davis.
33 A Brief Clinical Report of Three Cases of Perforation in the Alimentary Canal. Thomas H. Manley.
34 Diagnosis and Treatment of Purulent Disease of the Nasal Accessory Sinuses. O. A. M. McKimmie.

Pediatrics (N. Y.), January 15.

35 *Analysis of Five Hundred Cases of Lateral Curvature of the Spine and Treatment. Chisholm Williams.

Medical Sentinel (Portland, Ore.), January.

36 Arizona. Franklin Cauthorn.
37 Position in the After Treatment of Abdominal Operation. D. W. Springer.

Interstate Medical Journal (St. Louis), January.

38 *The Nephritides of Children. R. B. H. Gradwohl.
39 The Surgery and Medicine of Other Times. Thomas C. Minor.
40 *Asthma. R. Alexander Bate.
41 About Dwarfs. Lawrence Irwell.
42 A Few Cases of Secretory Neurosis of the Stomach. M. D. Schmalhorst.

Journal of Medicine and Science (Portland, Me.), January.

43 Anatomy and Physiology of the Kidneys. Chas. O. Caswell.
44 Uranalysis. Albion H. Little.

Clinical Review (Chicago), January.

45 *The Treatment of Epitheliomas of the Skin, with Report of Cases. William A. Pusey.
46 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
47 *Substitute Infant Feeding in General Practice. Julius Noer.

Chicago Medical Recorder, January.

48 *Malaria—Its Causation and Prevention. Edward F. Wells.
49 *Pernicious Malaria. Arthur R. Edwards.
50 *The Crescent Form of Malarial Parasite. Robert B. Preble.
51 *Treatment of Malarial Infection. Henry B. Favill.
52 *Scope of Medullary Anesthesia. Samuel L. Weber.
53 A Case of Acromegaly. Joseph Zeigler.
54 A Case of Acromegaly. Frederick Menge.
55 Surgical Cases. (Case of Intussusception. Case of Extrauterine Pregnancy.) Sylvan Kunz.
56 Hartley-Krause Incision in Gunshot Wound of the Brain. E. W. Andrews.
57 Ovarian Cysts in Colored Women, with Notes on the Relative Frequency of Fibromata in Both Races. Daniel H. Williams.
58 An Eruption Resembling Pemphigus Vegetans in an Infant. E. A. Fischkin.

University Medical Magazine (Philadelphia), January.

59 A Sketch of Dr. Alfred Stille. Charles W. Burr.
60 *The Rapid Diagnosis of Rabies. Mazyck P. Ravenel and D. J. McCarthy.
61 *Remarks on the Importance of the So-called Specific Lesions of Rabies. William G. Spiller.
62 *Experimental Pancreatitis. Simon Flexner.
63 *Investigation of the Influence of Kalagua in Experime Tuberculosis. D. H. Bergey.
64 *The Diagnosis of Leukemia from the Standpoint of the Changes. C. Y. White.

Providence Medical Journal, January.

65 State Sanatoria for Tuberculosis. Vincent Y. Bowditch.
66 State Sanatoria for Tuberculosis. Edward O. Otis.
67 Subcutaneous Nutrient Injections. George F. Keene.
68 Report of Two Cases of Traumatic Rupture of the Kidney, with Operation. George D. Hersey.
69 The Eruptions Attending Epidemic Influenza, with Some unusual Cases. Barnard Arnold.
70 Report of Two Cases of Normal Pregnancy and Labor Following the Operation of Ventro-suspension. Jacob C. Rutherford.
71 Two Cases of Pregnancy Following Ventro-Suspension. G. W. Porter.
72 Two Cases of Normal Labor Following Alexander's Operation. John W. Keefe.
73 Diphtheria: Treatment and Mortality at the Rhode Island Hospital. Albert H. Miller.
74 The Specialist from the Practitioner's Point of View: A Travesty. W. F. Gleason.
75 Anterior Metatarsalgia. J. C. Pegram, Jr.
76 Report of a Case of Splenectomy. J. B. McKenna.

Medicine (Detroit, Mich.), January.

77 *Every-Day Headaches. Hugh T. Patrick.
78 *Relation of Eye-Strain and Pneumogastric Reflexes to Digestive Disorders. A. L. Benedict.
79 *Membranous Colitis. John A. Robison.
80 Hepatic Abscess. John G. Wishard.
81 Examination of the Stomach Contents with Respect to Fermentation Products and Abnormal Constituents—Beside Tests. Frederick A. McGrew.

The Ophthalmic Record (Chicago), January.

82 *Hysterical Alopecia of the Eyelids. H. Gifford.
83 Corneal Ulcer Following an Advancement Operation on the External Rectus Muscle. Warwick M. Cowgill.
84 Has the Cornea no Fixed Dioptric Value? Carl Weiland.
85 Traumatic Luxation of the Crystalline Lens; Secondary Glaucoma; Extraction without Loss of Vitreous; Recovery with Normal Vision. C. A. Veasey.

Archives of Pediatrics (N. Y.), January.

86 *Congenital Stenosis (Spasmodic) of the Pylorus; Recovery. Thomas S. Southworth.
87 *Retropharyngeal Abscess and Adenitis. Irving M. Snow.
88 Pyelonephritis in Children, with Report of a Case in Which Nephrectomy was Successfully Performed. Louis Fischer.
89 *Clinical Notes on Scurvy in the Island of Cuba and Its Connection with Progressive Pernicious Anemia. J. L. Duenas.
90 Remarks on the Pathogenesis and Prophylaxis of Acute Rheumatic Fever in Children. Henry Heiman.
91 Malarial Coma in a Boy. E. P. Stone.

Western Medical Review (Lincoln, Neb.), January 15.

92 *The Colon Bacillus in Its Causative Relation to Suppurative Inflammations. Walter L. Bierring.
93 *The Choice of Operation for Stone in the Bladder. Byron B. Davis.
94 The Health of High School Girls Inez C. Philbrick.
95 Resection of Radial Nerve for Removal of Very Painful Neuroma. F. A. Long.

The Post-Graduate (N. Y.), January.

96 The Symptoms, Diagnosis and Treatment of Fecal Impaction. Samuel G. Gant.
97 Notes on Some Affections of the Heart Substance, with Illustrative Cases. Thomas E. Satterthwaite.
98 Some Neurological Notes. 1. Case of Congenital Defect in Growth of the Left Lower Extremity. Ichthyosis. 2. A Case of Right Facial Palsy of Mild Degree. 3. A Case of Traumatic Facial Paralysis of the Right Side. 4. A Case of Cerebral Disease Simulating Neoplasm at the Base of the Brain. 5. A Case of Imbecility with Marked Dolichocephaly. 6. A Case of Disturbance of Memory. 7. A Case of Chorea Caused by Mental Emotion in a Predisposed Child. Philip Meirowitz.
99 Notes from the Clinics. Dr. Caille.
100 "Hip-Joint Disease." The Causes of Its Deformities and Its Proper Mechanical Treatment, with a Description of "Phelps' Lateral Traction Splint." A. M. Phelps.

International Medical Magazine (N. Y.), January.

101 *The Oxygen Treatment of So-called Uric Acid Lesions. Alfred C Croftan.
102 *The Uric Acid Diathesis. James Tyson.
103 *Practical Home Methods of Bathing in Typhoid Fever. Simon Baruch.
104 The Value of the Tuberculin Test in the Diagnosis of Pulmonary Tuberculosis. J. M. Anders.
105 The Consideration of Lithemia as a Factor in Surgical Work. E. E. Montgomery.
106 Chronic Vesiculitis (Non-Tubercular), with Special Reference to the Technique of Stripping. J. D. Thomas.
107 Some Remarks on Uric Acid and Its Effects upon Pregnancy. John C. Hirst.
108 The Prognosis and Treatment of Dilatation of the Stomach. Boardman Reed.

Pacific Medical Journal (San Francisco), January.

109 Prognosis and Treatment in Pulmonary Tuberculosis. Robert McGuire.
110 Bubonic Plague: Its Prevention and Cure. Winslow Anderson.
111 Formaldehyde, Methylaldehyde, Oxymethylene or Formic Aldehyde, with most Important Combinations. P. A. Dubois.

Therapeutic Gazette (Detroit, Mich.), January 15.

112 *Lymphatic and Portal Infections Following Appendicitis. John C. Munro.
113 *The Real Value of Quinin in Labor. M. H. Fussell.
114 *Medullary Narcosis. W. L. Rodman.
115 "Cold in the Head:" How It May be Avoided and How to Treat It. George C. Stout.
116 Gonorrhea and Its Treatment from the Present Standpoint. Henry J. Scherck.
117 A Study of Some Heart Lesions and of Some of the Measures for Their Relief. (Concluded.) H. A. Hare.
118 A Report of a Case of Resection of a Large Portion of the Ilium for Chondrosarcoma. W. Joseph Hearn.

New England Medical Monthly (Danbury, Conn.), January.

119 The Electric Light in Medical Practice. Richard Kreutzberger.
120 A Local Medical Society. Hopkins Pond.
121 Burns, Lacerations, Ulcers, A Clinical Study. J. W. P. Smithwick.
122 Is Calomel Necessary? G. A. Gilbert.
123 Cephalotropsy, with Report of Fourteen Cases. John J. Berry.
124 The After Treatment of Malarial Attacks. M. B. King.
125 A Curative, Not a Palliative Remedy in Diabetes Mellitus. L. Goldstein.
126 The Value of H_2O_2 in the Treatment of Chronic Purulent Otitis Media. G. A. Gilbert.

AMERICAN.

1. **Mammary Tumors.**—The special point of Shrady's paper is the importance of the early diagnosis of malignant diseases of the breast. All cases of breast tumors should be suspected. No growths in this region can be trusted. Fully 90 per cent. of breast tumors in older women are malignant, and the remaining 10 per cent. very objectionable. The safe side, then, is the removal of all growths, whether in the young or in the old.

2. See abstract in THE JOURNAL of February 2, p. 343.

3. **Gout.**—Haig details his well-known theories as to the causation of gout. He thinks it is due to poisoning by flesh, tea, etc., or some substances which introduce uric acid into the body in large quantities, where it may remain and also prevent the excretion of the naturally formed uric acid. In this saturated condition the fibrous tssues may be irritated, producing gout or rheumatism; the capillaries may be disturbed, causing a group of circulation diseases, uric acid headache, epilepsy, insanity, anemia, Bright's disease, etc. All the diseases produced by uric acid fall into these two groups, the local and circulation groups, of which the latter is far more extensive. The indications for treatment are to cut off the poisons so that the introduction shall cease, and to provide for elimination. He thinks that altering the diet alone sometimes produces improvement, but the main point is to get substances which increase the solubility of uric acid in the blood. The action of the salicylates in the circulation are given, cases pointed out and the dietetic rules which should tend to improvement of the conditions.

4. **Nasal Polypi.**—Wright argues that the so-called nasal polypi are not myxomatous, as so commonly held, but simply edematous infiltrations, and that the recognition of this fact is a necessary preliminary to understanding the non-nasal morbid processes.

6. **Surgery of the Stomach.**—Bouffleur's paper is a review of the conditions of the stomach requiring operation and the measures that have been devised for their relief.

7. **Ligature of the Innominate.**—Delaup reports another case of ligature of the innominate artery for high innominate, carotid and subclavian aneurysm, followed by simultaneous double ligature of the common carotid and vertebral arteries at a subsequent operation. Death occurred after the second operation, from exhaustion, twenty-one days after the first. The

author reviews the literature and gives a tabulated list of cases. Of the four successful ones, only one approached being a complete cure, and the patient died from hemorrhage from aneurysm ten years after the operation. He thinks that in the future, with modern aseptic methods, a better record will be made, as the operation is justifiable and advisable under certain circumstances.

8. See abstract on p 402.

9. **Gonorrhea.**—Cabot's plan of treating gonorrhea with argonin is to begin within twelve or thirty-six hours after the first signs of anterior urethritis with no old deep trouble. He first takes a specimen of the discharge for microscopic examination, then the patient passes urine, after which the urethra is washed out with hot water. Then twice a day a 10 per cent. solution of argonin, freshly made, is introduced by Ultzman's deep injection syringe, or better still, by a rubber bulb holding about 6 drams. The bulb should have a rubber tip about two inches long, and be such as are sold under the name of ulcer syringes. The solution is introduced hot, and kept in the front urethra by pressing the lips of the meatus together as the point of the bulb is withdrawn. Then an application of 10 per cent. argonin solution is made with an applicator tightly wrapped with absorbent cotton introduced into the urethra, while the solution previously introduced is allowed to gradually flow out. The cotton swab should be gently applied to all parts of the anterior urethra for two to three inches, and then withdrawn. The solution remaining in the urethra is then allowed to escape and the operation repeated, not using the applicator if the patient suffers much from it. In some cases gentle kneading of the urethra while the solution is in place is advantageous. Everything must be done gently and slowly, and the solution be kept in for five or ten minutes. Cabot disapproves of the use of cocain, as it interferes with the patient's testimony as to his sensations, thus gauging the conditions. The first two or three treatments will usually show how the case is going to turn out. If all is going well, the disease remains stationary for two or three days and then gradually subsides. Internally, citrate of potash may be given to render the urine bland. The patient is directed to soak the penis in hot water three times daily, and the general condition of his health, the use of alcoholics, etc., restricted, and he should be kept as quiet as possible. If the progress is favorable, the strength of the solution is gradually increased up to as much as 30 per cent., and after several days, if he is still doing well, an astringent injection of lead acetate, tannic acid, zinc sulphate, copper sulphate—of each 2 grains, in tablets—in from four to eight ounces of water, is to be used by the patient after each urination. The argonin treatment is additional and must be given by the physicians. He says, in conclusion, that this method of treating incipient gonorrhea is safe, and all his cases have been satisfactory so far as traced, and have shown permanent results, there being no return later from deep lesions. The solution must be freshly prepared each time, and must be used hot, at a temperature of 110 to 120. There is no use in attempting to make a rapid cure this way unless the patient is prepared to implicitly follow the physician's directions in all particulars.

10. **Shortening After Coxitis.**—Taylor has studied the shortening occurring after hip-joint disease, and reaches, rather against his pre-conceptions, the following conclusions: 1. Considerable retardation of growth both in length and thickness of the limbs is the rule after coxitis and other affections causing long periods of lameness or disability in childhood. 2. The amount of retardation appears to bear a distinct relation to the amount and duration of retardation or disability. 3. This inhibitory effect of restraint should be considered in selecting the treatment. Other things being equal, locomotion is desirable and restraint for long periods harmful, though it may be necessary as the least of two evils.

11. See abstracts on pp. 401, 402.

12. **Gastro-Enterostomy by the Elastic Ligature.**—This method is by the application of the elastic ligature binding the viscera together and ultimately cutting its way through. The special technique, as given by McGraw, is as follows: 1. The ligature should not be a rubber thread or flat band which lacks the necessary strength to cut a way with certainty through the thick walls of the stomach. The surgeon must use a hard, firm rubber cord at least 2 millimeters in diameter. 2. It must include in one loop all the tissue that it is desirable to sever. The formation of several small connected loops is an error. The larger the amount of tissue included in the loop, the more securely and more certainly will the ligature perform its work. The cord must be drawn as firmly as possible, and be fastened by a silk thread tied around the ends. He has himself first knotted the rubber cord and then fastened it with silk. This first procedure may not be necessary. 3. Before inserting the rubber ligature the viscera should be joined together by a row of Lembert sutures for a distance of six or seven centimeters, and when the ligature has been tied a similar row in front should complete the procedure. The author thinks that if the method should ever fail it would be from its too rapid action. He believes that this method is unequaled in the rapidity of its action, its efficiency and its safety, and reports a few cases in which he performed gastro-enterostomy for carcinoma of the pylorus by this method, and one case in which it was performed for the production of a fistula between the gall-bladder and the small intestine. He does not think that it is best for this latter purpose, owing to the thinness of the gall-bladder walls, but for gastro-enterostomy it is the best adapted operation. The matter was made the subject of his address as chairman of the Section on Surgery and Anatomy, before the American Medical Association in 1891, and published in The Journal of May 16, that year.

13. **Infant Feeding.**—Rotch concludes from experiments made by Drs. White and Ladd, under his supervision, that the addition of cereals to cow's milk for young infants is unnecessary, because better results can be obtained by other methods, and it is irrational since it differs from Nature's methods. In a certain proportion of cases where the cream is mixed with milk, water and lime-water, the emulsion at times appears partly disturbed, and this condition has been held by some to counterindicate the general principle of the percentage feeding. This subject has also been investigated and he does not find that the disturbance of emulsion does any special harm. As regards the management of proteids in infant food, he says that an object to be kept in view in regulating the lactation of the first twelve months of life is, in the early months, to start with a low percentage of proteids and to make the composition of this low proteid in the proportion of two-thirds whey and one-third caseinogen. As the infant grows older we should not only increase the proteids so that in the latter part of the year it can take the high total proteids of undiluted cow's milk, but also that the proportion of whey proteid to caseinogen should, as the total proteid becomes higher, be gradually changed from two-thirds whey to the one-sixth contained in the total proteid of cow's milk. He gives a table of prescriptions that it is possible to follow in the milk laboratory, and he believes that it is perfectly possible with the good milk supply, such as comes from the laboratory farm, to prescribe a percentage mixture which will retain its emulsion except under extraordinary circumstances of transit and heat. It need not be Pasteurized excepting for long distances in hot weather, and will not need to have cereals added for their mechanical action. He thinks that a centrifugal cream no more disturbs an emulsion than a gravity cream, and therefore is preferable as about one-half a day fresher.

14. **Bacteremia and Indications for Hysterectomy.**—Boldt objects to the ordinary terms septicemia and pyemia, and after discussing the definitions given by various authorities, suggests the following: Septicemia—or acute bacteremia—is a blood disease caused by parasitic micro-organisms invading the circulatory system or some primary seat of infection. Usually the infection multiplies so rapidly in the blood as to usually carry the patient off in about five days. The germ is usually staphylococcus pyogenes, but other forms may also occur. Pyemia—chronic bacteremia—is an infection of the system by streptococcus pyogenes, alone or with other pathogenic germ

beginning from an infected thrombus. They are not diffused into the system in one large quantity, nor do they possess the same extreme virulence as in the acute type from a clinical point of view. The production of the abscesses found in the condition called pyemia, on which depends the pathologic differences between the acute and chronic, is due to the organism finding a resting place outside the circulation and there giving rise to abscess. He would therefore call septicemia, acute bacteremia; and pyemia, chronic bacteremia. In the second part of his paper he discusses the indications for hysterectomy, and sums them up as follows: If, after a full-term delivery or an abortion, there are no conception products in the uterus, and the patient has fever with exacerbations, chills, and a small and frequent pulse—120 to 140 or more—if careful observation should show that the infection comes *from the uterus alone*, that organ being enlarged, and relaxed in its consistency, if there is no evidence of peritonitis, the parametria being free, if streptococci are found in the uterus, and, especially, if the blood shows the presence of pathogenic germs, as in Prochownick's patients; if there are decomposition products in the uterus, as in the instances reported by Schultze, Sippel, Prochownick, Stahl, and others, which can not be removed satisfactorily *per vaginam;* if, on doing a Cesarean section, the uterus is found septic, then an abdominal hysterectomy is indicated. Abdominal section with drainage is indicated in diffuse septic peritonitis when there is no evidence of an exudate in the pelvis. The annexa are to be left undisturbed unless there is some positive indication to do otherwise.

15. **Blood Poisoning.**—Harvey calls attention to the effect of arsenic in large doses, and the difference when given in small quantities, the susceptibility of some persons to mercury, bromids, iodids, and the dangers from the prolonged use of full doses of strychnin or quinin.

16.—See abstract in The Journal of February 2, p. 343.

18. **Babinski Reflex.**—According to Prince, there appear to be two reflexes comprised under this head, one spinal and the other cerebral, the latter being an extension movement which he considers automatic, as in dodging the head before an expected blow. They may be inhibited largely through the will, though not always. With proper precautions to inhibit cerebral reflexes, extension of the great toe never occurs in health. Extension of some of the other toes may occur, but in some of these cases, at least, it is also a cerebral reflex. The significance, then, of the Babinski phenomenon consists in extension of the great toe, and he thinks the best term for it would be "the great toe phenomenon," (like knee-jerk, etc.) It does not follow, however, that extension of other toes may not be of pathologic importance. He has observed them in certain cases, such as meningeal hemorrhage, and in some obscure ones of cerebral disease. He thinks this recognition of the cerebral element is of practical importance in interpreting the pathologic signification of extension.

20. **Vesical Implantation.**—The case reported by Reynolds is explained in detail. He thinks that the Dudley operation entirely obliterates the danger of slipping away of the ureter from the bladder, and the presence of forceps must at the same time direct the stream of urine into the bladder; in this case it produced no discomfort. The result was remarkably successful. Aside from the high position of the new urethral opening it could hardly be distinguished from the corresponding one on the unoperated side.

21. **Pregnancy After Ovariotomy.**—The case reported by Morris seems to have been one of complete removal of the ovaries and tubes, and yet pregnancy followed. It is suggested that there must have been a supernumerary ovary in this case, and possibly another ostium between the uterus and the ligature of the tubes.

22. **Lakewood (N. J.) as a Winter Resort.**—Schauffler finds that the advantages of Lakewood are due to two factors: 1. The comparative mildness of the temperature and its phenomenal dryness. He thinks it specially beneficial for asthma, bronchitis, laryngitis, and also in the first stages of tuberculosis. It is also a good locality for convalescents from acute diseases. The soil, location, etc., are, he thinks, particularly good for a northern climate. The average humidity is low and there is no appreciable moisture in the air for any considerable portion of the time.

23. **Climatic Treatment of Bright's Disease.**—The authors find the highest mortality from Bright's disease is in the middle Atlantic Coast region, the next the North Atlantic, next the northeastern hills and plateaus, the South Atlantic Coast region, and, lastly and least, in the Southern Central region. A part of this prevalence in some of these regions is due to other than climatic conditions, urban concentration, etc. The most unfavorable states to those suffering from renal diseases are New Jersey, New York, Massachusetts, New Hampshire and Vermont, and those most favorable are Tennessee, Georgia, Nebraska, North Carolina, Arkansas, Texas, and certain parts of southern California.

24. **Syphilis at Hot Springs.**—Jelks finds the climatic and social conditions of Hot Springs, especially advantageous to cases of this disease. The advantages are regulation of diet and living, such as favor treatment, the unequalled bathing facilities, drinking of hot water favoring elimination, while the drug treatment may be carried to a much greater extent than in other sections.

25. **Florida.**—After describing the climate, geography, etc., of Florida, Crook gives the following as the classes of cases best suited to be sent to that region: 1. Cases of recurring bronchitis or winter cough. 2. A large and important class of cases, hereditary or otherwise, in which there is reason to fear the development of tuberculosis, though there may be no signs of the disease. 3. The majority of cases of early phthisis prior to cavitation. Patients showing great debility or severe anemia should not be sent to a southern climate, nor those in whom acute manifestations are present. As in other localities, cases where the symptoms are prominent are not welcome everywhere, but he knows of no case where comfortable quarters could not be obtained. 4. Cases of so-called fibrous phthisis or chronic interstitial pneumonia are always benefited. 5. A large class of invalids, rheumatics, victims of subacute or chronic gout, asthmatics, intractable cases of chronic rhinitis, pharyngitis, laryngitis, lumbago, general debility, etc., are usually improved by a season in Florida.

26. **Climatology of Neurasthenia.**—Two extremes should be avoided by neurasthenics, a low, windy, treeless climate, and a high altitude, above 2,000 feet, with quiet atmosphere and low atmospheric pressure. As an illustration of the former condition he mentions Portland, Ore.; of the latter, the higher parts of southern California and New Mexico. Aside from idiosyncrasy, he says the ideal condition consists in sea air in a well-wooded country far enough from the coast to avoid its fogs; a sea voyage is an excellent preliminary to other measures. An altitude of over 2,000 feet, a very stimulating climate, districts visited by high winds and frequent fogs, cloudy saturated atmosphere, with slight movements of the air-currents, a low warm sea-level country, etc., should be avoided.

27.—See abstract in The Journal, xxxv, p. 1171.

28. **Heart Disease in Children.**—Friedlander first notices the relations of the heart to the chest wall in children as compared with adults, and the position of the apex; the area of absolute dulness is somewhat larger. In this paper he follows much the same general line of reasoning as given in Poynter's article abstracted in last week's Journal, p. 351, describing the symptoms of endocarditis, pericarditis, and myocarditis as they occur in infants and children.

29. **Resinol Dermatitis.**—Reynolds defends resinol against the attack made on it by Heidingsfeld's paper, in The Journal of January 12, p. 137. He thinks that it is a valuable remedy, and if anything is to be called a specific it is, not only in the surgical use, but in a far more important group of diseases, those of the gastro-intestinal tract, particularly typhoid fever.

35. **Spinal Curvature.**—This paper consists in an analysis of 500 cases, mostly hospital patients, and the great majority

of them females. The chief causes seem to have been heredity, rachitis, general weakness, bad posture and habits. The most common form was right dorsal and left lumbar convex, over 50 per cent. of the total being of this type. The patients were treated by attention to the general condition, the use of hypophosphites, cod-liver oil, bland iron preparations, straightening of the spinal column by manual pressure, mechanical pressure and various splints such as Barwell's orthopedic apparatus and Volkman's sloping seat, keeping up the improved position by means of a special apparatus devised by the late E. T. Chance, which consists of a metallic splint between the shoulders, having attached to it two straps which pass through the axillæ, bracing back the shoulders, joined to a perpendicular slotted rod which passes downward to a crescent-shaped metal band—pelvic girdle—joined in front by a strap and situated on a level of the crest of the ilium and great trochanter; over the convexity of each curve a plate is accurately adjusted by means of short metal arms which connect the plates to the perpendicular rod. A broad abdominal belt completes the splint. All parts touching the skin are padded and the adjustment is made by wrenches and keys. The splint must be fitted perfectly at the first adjustment, and be altered as improvement progresses, so as to keep up a better position. The patient should be directed to "keep away from the plates," as every time this is done and better position is gained she can not resume the more faulty position. In addition special exercise for weakened muscles—massage, galvanization, etc.—is employed.

38. **Nephritis in Children.**—While drug nephritides are not uncommon in children, the specially important types of the disease are those which follow or accompany acute infectious disorders, scarlet fever, diphtheria, etc. The most dangerous types, of the trouble of this sort, which Gradwohl has seen, are those which occur in scarlet fever where the symptoms of the disease itself are almost *nil*. He calls attention to the necessity of making urine analysis of children's urine passed in the whole twenty-four hours, and calls attention to the fact that the amount of albumin present has nothing to do proportionately with the amount of edema. Hemorrhagic nephritis complicating scarlatina has a better prognosis than those acute types accompanied with pale urine and not much albumin—glomerulonephritis acuta. In diphtheria this complication is even more common than in scarlatina, but we seldom see hemorrhagic nephritis with this disease or edema or uremia. It is rare after measles, sometimes occurs with a hacking cough or nephritis, and may occur after gastro-intestinal disorders and eczema. There is also a nephritis of anemic children in which it is well to examine the urine. The peculiar form is the type that comes and goes, disappearing when the child goes to bed and returning when it gets up and goes about again. Although it is rare that chronic nephritis is seen in children, it occasionally follows the scarlatinal type.

40.—See abstract in THE JOURNAL, xxxv, p. 1050.

45. **Cutaneous Epitheliomas.**—Pusey reports cases of cutaneous epithelioma treated by caustics, with good success in all eleven. He calls attention to the fact that epithelioma of the skin, especially the superficial type, is often slow in progress and has little tendency to metastasis. The cases usually come to the dermatologist in the early stages, hence the favorable results. His method was to first curette and then use a caustic, pyrogallic acid; in all cases working under cocain. He thinks, however, that pyrogallic acid is less safe than a caustic, which more surely destroys diseased tissue. He has lately used the saturated solution of chlorid of zinc with most satisfactory results. This method of curetting and the use of caustics acts better than the knife, as it is not necessary to cut out into the healthy tissue. The cosmetic effect is also better.

47.—See abstract in THE JOURNAL, xxxiv, p. 51.

48. **Malaria.**—Well's article is a brief but thorough statement of the present state of our knowledge in regard to malaria.

49. **Pernicious Malaria.**—The casual factors, the estivo-autumnal parasite, the pathogenesis of pernicious symptoms, the secondary elements in the determination of perniciousness, the symptomatology in detail, the diagnosis and differentiation of the pernicious type of malarial fever are described by Edwards. He recognizes the occurrence of occasional rare instances of the pernicious type from the ordinary tertian parasite, though in most cases it is due to the estivo-autumnal species; it forms, however, only a small proportion of the cases thus caused.

50. **Crescent Form of Malarial Parasite.**—Preble has formerly expressed the opinion that the crescent form of malaria did not occur in Chicago, but has since learned of a few cases. He describes the crescent parasite and mentions their diagnostic significance. They are not always readily found, and sometimes repeated examinations are required. In a few cases he has been able to find them after a small dose of quinin, when the blood had been repeatedly examined before without their detection. As long as they are found the patient is in danger to others and should be carefully protected against mosquitoes for fear of contagion.

51. **Treatment of Malaria.**—The first point insisted on by Favill is a positive diagnosis before any treatment is attempted. The fact that other diseases recover under quinin, besides malaria, adds another possibility of misinterpretation. Assuming that we have made a correct diagnosis to determine the type, the treatment is comparatively simple with the ordinary forms; with the estivo-autumnal fevers, however, we have many difficulties. They are very baffling and irregular in their course, but there is no doubt that quinin is also a direct antagonist to these as to other types. What we are to do with these cases that do not yield, is difficult to say. The authorities state that 15 to 30 gr. a day is sufficient for any case of malaria, but we know that there are many where it is not effective and others where it would be too much, and the question arises whether or not we should be heroic in the use of the remedy. Some practitioners say that enormous doses of quinin are not absorbed. If we could be sure of this there would be some comfort. There is some reason to suppose that large quantities are absorbed, but yet ineffective. Favill believes that the hypodermic administration of the drug is possible, though there are objections to it. The danger of local necrosis is great, and he thinks that after all there may be some associated or consequent toxemia in these resistant cases that quinin does not touch. We can not tell, however, whether we are dealing with a continuous infection or the indirect results of infection. Our therapeutists blunder along and we give quinin because we have nothing else to do. What are the terminal aspects of malarial infection? For the most part the lesions are in the nervous system, but when there is a deterioration of blood its rejuvenation becomes an important question in the cases after infection has once been subdued. As regards the administration of quinin, he thinks that much will depend on the characteristics of the case. The question can not be decided off hand. The drug must be administered according to the necessities and possibilities of the case. The point is to get quinin into the blood in sufficient quantities, and this leads to the statement that there is no such a thing as a regular dose of quinin; a dose is that which will produce the desired effect.

52. **Medullary Anesthesia.**—According to Weber, our aim at the present time is to define the scope and limitations of medullary anesthesia. We can use the method in all gynecologic and obstetric operations, all genito-urinary and intra-abdominal and groin operations, such as hernia, bubos, etc.; all operations of scraping, manipulation, etc., of the abdominal wall, and operations on the lower extremities. He advises against its use in children, partly because of the mental effect of the method and because they take anesthesia so easily. In old age, however, it would be of great value, as aged people, as a rule, bear general anesthesia badly. Men bear the method better than women. The psychologic effect is less. In emergency or accident surgery it is of great value, also in military

or country practice. Operations can be done in the office under this method such as operations for bubo, varicocele, etc. For surgical practice amongst the poor it is valuable, and the non-necessity of a skilled assistant makes it an important gain. Patients suffering from emphysema, chronic bronchitis, pulmonary tuberculosis, fat people, old people, alcoholics, those suffering from chronic nephritis, atheromatous arteries, myocarditis are dangerous risks for chloroform or ether and medullary anesthesia will here come most into play. As regards its dangers, he says we will have no deaths if we do not overdose. The direct toxic effects are mentioned as slight. The other possible cause for death is sepsis, and this can be guarded against. There are some disagreeable effects connected with it, such as vomiting, headache, etc., but they are not dangerous.

60.—See abstract on p. 401.

61. **Specific Lesions of Rabies.**—Spiller holds that the so-called specific lesions of rabies are of diagnostic value, but are not absolutely confined to this disease. From his own experience he thinks that many of these lesions are simply due to irritation or intoxication and it is not necessarily rabid.

62. **Experimental Pancreatitis.**—Flexner, in a previous study, found that the secretion of the pancreas may enter the peritoneal cavity without setting up diffuse inflammation, a conclusion previously arrived at by Senn, and in a certain number of instances the free, sterile pancreas or pancreatic secretion may cause local fat-necrosis. The element of infection plays an insignificant if not altogether unessential part. In the peritoneal fat-necrosis the fat-splitting ferment is demonstrable at certain stages of the peritoneal process. It is present in the greatest amount in the early stages, and may disappear later. Although it can not be confirmed that steapsin is the direct cause of necrosis of the tissue, this is rendered highly probable by its constant occurrence in disease areas, its absence from the healthy fat, and the nature of the pathologic changes. The escape of the pancreatic secretion into the peri- and para-pancreatic tissues is the origin of the necrosis, and this escape is facilitated not only by lesions of the pancreas itself but also by obstruction of its circulation. This may be brought about by injuries of the pancreas, and ligation of the ducts, as well as by the production of passive congestion. He has since made, and here reports, a series of experiments by injections of acids, alkalies, bacilli, etc., into the pancreas of dogs with chemical and microscopic examinations. The results reached are that hemorrhage per se is common in all forms of the pancreatitis, but when excessive, dominates the process. It is usually more pronounced than the inflammatory lesions, and the two conditions may be separate and distinct in the same organism or different parts of the organism. The necrosis is due to perversion of pancreatic secretion, and the direct result of the action of the fat-splitting ferment. The hemorrhage does not commonly occur independently of inflammation, and one of the lesions is disintegration of pancreatic tissue. If we recall the tendency of the pancreatic secretion to act with the pancreas, it follows that these injured foci might better become the starting-point of another form of degeneration leading to necrosis of the glands and reactive inflammation; that this dead tissue might also form a favorable point of location and multiplication of micro-organisms whose presence would still further complicate the condition.

63. **Kalagua.**—Kalagua is a Japanese plant transplanted to South America, which has been reported a specific for tuberculosis, and reports have been made by Stubbert and others and certain claims as to its influence recorded. Bergey reports the results of experiments made on guinea-pigs and rabbits, in tabulated form, some of the animals being inoculated with tubercle bacilli, and others not. In none of the experiments was there any positive evidence of a beneficial specific influence of kalagua. If it is really, as claimed, a specific for the disease, it is most probable that some evidence of its action would be apparent in these experiments, but no effect traceable to the drug was observed.

64.—See abstract in The Journal, xxxv, p. 1105.

77.—See abstract in The Journal, xxxiv, p. 1335.

78. **Eye-Strain and Digestive Disorders.**—Benedict's views in regard to the relation of eye-strain to digestive disturbances are rather conservative. He points out that statistics as to the frequency of this relation are not practicable, and that the correction of digestive disorders by glasses is sometimes ineffective, though there is no doubt but that eye-strain in certain conditions may react in pneumogastric reflexes. True pneumogastric reflexes, nausea, etc., are not caused by any sensory disturbance other than those of sight and equilibrium, excepting either change of temperature or psychic translation. He tries to explain the psychic processes by which nausea is thus excited tentatively, the stomach by virtue of its contents and the liver by virtue of its own inertia—and the fact that it is the only body that changes in its inertia can readily be appreciated—are admirably adapted to transmit sensations of equilibrium. Other afferent measures which they transmit to conscious centers must be by the pneumogastric nerve and the overstimulation of the function of a nerve of manifold functions is apt to be associated with sensations apparently representing the nerve in other functions. He is skeptical as to the equilibrium function of the semicircular canals.

79. **Membranous Colitis.**—Robison describes the symptoms and pathology of membranous colitis, which he divides into two classes. 1, those due to enteroptosis, lack of digestive ferment and intestinal calculi. 2, those due to dyspepsia, traumatisms, and grave cachectic diseases, septic and infectious conditions and carcinoma. The prognosis must be guarded, though the mortality is low. The treatment depends on the character of the conditions; enteroptosis, dyspepsia, etc. Only surgery can relieve deformities of the internal viscera. Intestinal antisepsis by free colonic flushing and by the mouth gives relief. The diet should be ample, varied and digestible. In all cases it is well to exclude rich soups, gravies, etc. Hygienic dress, an abdominal bandage, exercise, change of scene, attention to renal insufficiency, flushing of the bowels are all mentioned as of advantage. He has had benefit from a solution of methylene blue, 1 grain per quart by rectal injection given high. Medicinal treatment is confined to intestinal antiseptics, the best of which he thinks are bismuth salicylate, salol, betanaphthol, thymol, benzoic acid, menthol, guaiacol carbonate and creosote. It is necessarily symptomatic and should be varied to suit each individual case.

82. **Hysterical Alopecia of Eyelids.**—Under this name Gifford describes cases in which the eyelashes were pulled out by hysterical girls, thus simulating a diseased condition.

86. **Congenital Pyloric Stenosis.**—Southworth reports a case in a child, which lasted for nine days after birth, and in view of the complete cessation of vomiting at this time, he is inclined to think the condition more functional and spasmodic than otherwise. There was no palpable tumor nor dilatation of the stomach.

87. **Retropharyngeal Abscess.**—Three cases of retropharyngeal abscess in infants are reported by Snow, who discusses the diagnosis of the condition. He thinks the failure to recognize the abscess in babies arises from the hesitancy to hurt the child by digital examination of the throat, and insists on the importance of this measure. The condition is such that everything possible should be done to relieve it. The symptoms are usually misunderstood, and hence may not guide us to a correct conclusion.

89. **Scurvy in Cuba.**—Duenas has not found any cases of scurvy described in Cuban literature since 1889, but reports personal observations of his own. He calls particular attention to the connection of anemia with scurvy, and asks whether we should consider it as a special clinical form of progressive anemia? He thinks that alteration of the blood is the first pathogenic link of all manifestations to follow. Further observation would be required to establish the relations of scurvy with progressive anemia, but he wishes to call the attention of his colleagues to this aspect of the subject, and intends to study it further.

92. **Colon Bacillus.**—Four cases are reported by Bierring, presenting local peritonitis from gall-stones and gall-bladder

perforation, abscess of the liver, and septic appendicitis, in all of which were found pure cultures of the colon bacillus. Bierring concludes that this bacillus bears the same relation to the intestine that pyogenic cocci bear to the surface of the skin and the upper portion of the digestive and respiratory tracts. Each form, in its natural habitat, is harmless, their pathologic activities corrected by the physiologic resistance of tissue but when this is lessened they become capable of producing disastrous consequences.

93.—See abstract in The Journal of January 12, p. 126.

101. **Oxygen Treatment of Uricacidemia.**—After alluding to the former articles, in which he demonstrated the fact that uric acid is not the cause of uratic dyscrasia, etc., Croftan suggests that it will depend on the activity of the oxygenation processes whether uric acid, a non-toxic substance, is formed, or whether with deficient oxygenation, poisonous alloxuric bases are formed instead. The oxygenating processes in the human organism occur in two places, in the blood and in the periphery of all tissue cells. In one case oxygenation is derived from inspired air, and in order to cause oxygenation in the blood we can increase the proportion of oxygen in the air and promote its absorption, increase the quantity and activity of the red blood-corpuscles and the hemoglobin in the individual cells. To increase oxygenation at the cell periphery we can only act by raising the functional tone and the activity of all the organs. The author describes his method of giving oxygen inhalations, which he claims have the best results, educating as it were the perverted tissue-taint back to normal and possibly effecting a cure. Continued for a sufficient length of time an individual of ordinary chest capacity will get from ten to fifteen inhalations from the ordinary five-gallon bag, each treatment taking about five minutes. The diet is of importance, and in substance the same as that given in an abstract of his paper in last week's Journal, page 349. The drug treatment is essentially the same as that for secondary anemia: bichlorid of mercury in small doses, arsenious acid, and iron. High altitude is bad for these patients. That which is best is a dry, equable, semitropical, sea-level climate, or a very moderate elevation, with a large proportion of sunshine, such as is obtained in the Italian Riviera, Algiers, the Nile, and southern California.

102. **Uric Acid Diathesis.**—Tyson says the uric acid diathesis is remediable in two ways: 1. By eliminating the ingestion of nitrogenous food. 2. By increasing the quantity of water constituents of urine and by alkalinizing the blood and urine, favoring solution and elimination. Nitrogenous food should be limited. He sees no contraindication to the use of carbohydrates and hydrocarbons in these cases, provided they can be digested and assimilated and are not productive of acid fermentation. In addition to these foods there should be used, in reason, vegetables and diluent drinks to make up the dietary. He sees no objection to the use of fruits which are not too acid, such as oranges, grapes, peaches, pears, apples, etc., prohibiting acid fruits like strawberries, and especially if the fruit is difficult of digestion. Exercise, baths and massage should also form a part of the treatment. He also believes in the use of the alkalies, and uses chiefly the salicylates, citrates, and bicarbonates. His experience goes to show that the salicylates are the best. Piperazin has a disputed value, and while he does not speak of it strongly, from his own experience he has found it of value in the treatment of uric acid sediments. His point of view, as will be seen, is different from that of Croftan.

103. **Bathing in Typhoid Fever.**—Baruch offers the following method of home bathing in typhoid: Strip the patient and roll him upon his right side. The nurse, standing on the left of the bed, spreads a blanket over its left half and covers it with a linen sheet or old tablecloth. The patient is now rolled toward the left, upon his abdomen; the lower extremities are covered with a blanket. A basin of water at 80 degrees having been prepared, the nurse dips a rough wash-cloth into it, squeezes it lightly, and passes it, with some pressure, rapidly to and fro over the lumbar region. The cloth is again and again dipped and passed over the same part until it feels cool; other parts of the back, buttocks and thighs are similarly treated. Any water that may have flowed upon the blanket is now mopped up with a sponge. The whole back is now gently dried with a soft linen towel; the patient is turned over and the anterior part of the body is similarly treated. Chilling must be avoided by rapid using of good friction during the ablution; it will then not be necessary to apply it afterward. If the patient becomes chilly, the applications must cease, though this must not be taken as a demand for warmer water, but as an indication that too much water was used or it was applied too long. In two or three hours, if the temperature has reached 102.5 F., the ablution must be repeated with water 5 degrees colder, and applied with more friction. Thus the water temperature may be gradually reduced with advantage to 60 F. After the patient has been dried and had his gown replaced, a wet compress is applied over the abdomen, as follows: Cut three folds of old coarse linen to fit the anterior part of the body from the ensiform cartillage to the pubis, and lap over well on each side. Wring this out of water at 65 F., so that just enough water remains to saturate the cloth without its dripping. A piece of flannel large enough to pass entirely around the trunk and an inch wider than the linen compress is rolled into a bandage and spread beneath the body. The gown is rolled up under the arms, the wet compress is now applied over the abdomen, and the flannel bag snugly secured over it with three pins. The comfort of the patient and the good effect of the procedure depend on exact technique. The compress is continued hourly until the temperature reaches 100. When it rises to 103, or evidences of nerve depression become more pronounced, some stimulating procedure is required. The towel bath is an excellent measure. It is given by putting a dripping towel on the back, the patient lying on his abdomen, and water at 85 degrees dipped up and poured on the upper part of the back. The part is then rubbed by passing the flat hand rapidly over it until it warms, and another cupful is poured on and friction repeated. This is done three times unless the part fails to warm up. The process is carried successively over the entire back, buttocks and thighs, and they are then gently dried. The precautions to act quickly and stop when the patient's teeth chatter or evidence of chilling occurs must be remembered. If the febrile manifestations do not abate, the water temperature may be lowered five degrees each time until the towel water reaches 60 and the cup water 50 degrees. This last temperature will hardly be required unless stupor, delirium, or subsultus are persistent. In the sheet-bath, the entire body is wrapped in a linen sheet taken dripping out of water at 85 F. Colder water is poured from a cup, followed by friction as in the towel-bath. The ice rub is another energetic procedure. Instead of pouring cold water the patient is vigorously rubbed with cold pieces of ice held securely within a piece of white linen. Each part is thoroughly rubbed afterward with the flat hand, until it thoroughly warms up. Internally, four to six ounces of water at 40 F. should be given regularly every two hours, alternating with the same quantity of milk or other liquid food. The systematic drinking of cold water is an essential element in the hydrotherapy of typhoid fever.

112.—See abstract in The Journal of January 19, p. 205.

113. **Quinin in Labor.**—Fussell finds that the administration of quinin is a valuable stimulant in cases of uterine inertia, especially in cases of multiparæ. He thinks its employment will frequently obviate the use of forceps. He gives about 15 or 16 gr. at a dose.

114. See abstract in The Journal, xxxv, p. 1361.

FOREIGN.

The Lancet, January 19.

Some Cases of Head-Injury, Including One in Which There Was Lesion of the Occipital Bone. Herbert W. Page.—The author details several cases of injuries to the head which present certain points of interest, more especially the visual symptoms in one case which showed hemianopsia with irregularity of the field, following an injury to the occip bone with depression and removal of portions of the brain. The other cases were more ordinary. He particularly notices the occurrence of unconsciousness, especially when prolonged, and does not hold that it is in itself an evil omen. He quotes Sir James Paget, who said, in a verbal communication, that all things being equal, a certain amount of unconsciousness by giving rest to the shaken brain, aids sometimes to recovery, the condition of unconsciousness to the patient acting to some extent as the splint to an injured limb. Page remarks that he has taken something of the same view of the case himself, and does not consider that those in whom the loss of consciousness has been most prolonged are necessarily those in whom the prognosis is the most serious.

Ten Successful Cases of Cesarean Section. W. J. Sinclair.—The author gives detailed accounts of ten cases of Cesarean section, with general remarks on the subject. The time of the operation is a matter in which there is a great difference of opinion, but, as he says, in the majority of cases there is very little choice. We do not now, as in former days, use it as a last resort. In all cases incision of the uterus was postponed until it could be drawn forward out of the abdominal wound, and it is always best to insert an elastic tube so as to compress the uterine vessels in cases of emergency. It does not necessarily require any very large abdominal incision for, in the majority of cases, after rupture of the membranes, the volume of the uterus is not so great and the advantages of cleanliness and precision in the operation, by drawing up the uterus, are beyond question. The objection to elastic ligation has no basis. If the deep sutures are inserted as quickly as possible, tied tightly and the tube relaxed, hemorrhage is slight and the organ gradually assumes its natural color. If by the time the sutures are inserted and tied it looks bulky, it can usually be made to contract by manipulation, not directly with the hands, but through a suitable cloth. The size of the incision into the uterus should be sufficient to permit rapid extraction of the fetus without further laceration, and a one-half inch incision is a small matter as compared to the accident of tearing the uterine substance. Sinclair rejects the German method of incising the fundus, which he thinks in any case should be left free. When it is made in the most obvious position, the middle third in front and in the median line, it sinks down and comes in contact and adheres to the abdominal wound. A month or six weeks later the uterus is found exactly where it would be after a successful ventrofixation operation. Symphysiotomy, he believes, is dying out and getting to be obsolete, which he thinks is the better for humanity. As regards premature labor, it would be just as well to perform craniotomy as to wait until the twenty-eighth or thirtieth week when a viable child can not pass. If we look at the indications for Cesarean section, and compare them with those for the induction of premature labor, one can not fail to be impressed with the shortening of the one and the extension of the other.

Medical Press and Circular (London), December 19, 1900.

Extirpation of the Gasserian Ganglion.—Prof. Julius Dollinger reports his experience with the Hartley-Krause operation. The point especially made by him is the avoidance of the middle meningeal artery. By examining a large number of skulls he concludes that in 59 per cent. of the cases the place of entrance of the middle meningeal artery lies so far behind the foramen ovale that one can approach it without requiring the ligature and subsequent division of the artery. In 35 per cent. we can also remove the ganglion without ligating the artery, but to do so we must get at the ganglion, going behind in a median direction. The second root leaves the skull further forward; it is therefore accessible without ligature of the artery. He also concludes that in about 96 per cent. of cases the Gasserian ganglion can be removed without ligating and injuring the arteries, and he has thus performed the operation in five cases. The method employed is given as follows: "After opening the skull and bending back the bone flap, I introduce a finger between the dura mater and the base of the skull until I reach the middle meningeal artery. Before this I turned to the second and third division of the trigeminus and peeled off the dura mater with an elevator with a blunt point. On the way I introduced the elevator from outward and medianward to upward and backward. I could separate the Gasserian ganglion very easily, partly from the base of the skull and partly from the dura. In the same direction I reached the ganglion with forceps, and seizing it, I drew it out, together with the trigeminus root (having, of course, previously cut across the two divisions of the trigeminus mentioned above). I did not use the Krause spatula when lifting the brain, having only made use of this spatula in the first two cases performed according to the old method. Now I avoid its use, because the assistant who holds it can not see into the aperture leading to the base of the skull, and therefore he lifts the brain either too high or too low, to avoid which I have continually to guide his hand. For that reason I lift the brain myself with an elevator which is 1½ cm. wide, and is slightly bent on its flat side; I hold this in the left hand in such a way that I can perform the operation by the aid of light projected by an electric reflector." Following this plan considerably shortens the operation. The second operation which he performed lasted only twenty minutes and the average duration of the other three was thirty-eight minutes. The conclusions which he gives from a summing up of his experience are: "1. The Gasserian ganglion can be extirpated without ligature of the middle meningeal artery. This is proved by my five cases. The operation is thereby much shortened, and the complications arising from the ligature are obviated. 2. The anterior division of the artery in half the cases lies in the closed canal of the parietal bone more frequently than in the open sinus, but even then hemorrhage does not in every case occur on turning down the bone flap. 3. With regard to these rare cases of bleeding, we need not previously cut down on the external carotid artery, because, should hemorrhage occur while compressing the common carotid artery we have plenty of time to plug the foramen spinosum, or, when necessary, to ligature the external carotid artery."

Archives Gen. de Med. (Paris), October, November and December, 1900.

Endocranial Complications of Sphenoidal Sinusitis. Toubert.—The sphenoidal sinus is more frequently involved in case of nasopharyngeal infections than is generally appreciated, especially in the course of la grippe, pneumonia, erysipelas and typhoid fever. The sinusitis may then become complicated by fatal meningitis or phlebitis, and it is probable that a certain number of instances of meningitis, supposed to be spontaneous, are probably in fact complications of an ignored sinusitis. Diagnosis of sphenoidal sinusitis is very difficult on account of the variability and lack of precision of the symptoms, both subjective and objective. Exploration of the cavity of the sinus with a catheter or by puncture seems the best means of diagnosis. The endocranial complications are readily diagnosed, but they do not indicate the source whence infection was derived. Jacob's method of inserting the catheter is simple, the point is guided by the bones, after entering the nostril, following the natural curve formed by the deep surface of the bones of the nose, the cribriform plate of the ethmoid and the anterior surface of the sphenoid—the vault of the nasal fossa. When the convex side of the catheter strikes the posterior angle of the vault at the spheno-ethmoidal articulation, if the catheter is twisted slightly outward, it can be easily pushed into the sinus.

Sensory Disturbances with Cerebral Lesions. H. Verger.—More than 140 pages are devoted to the study of the general disturbances in sensibility consecutive to lesions of the cerebral hemispheres in man. Verger's conclusions are that general sensibility is not localized exclusively in the cortex. The terminal ramifications of the nerve-cells establish multiple relations between the inferior and cortical centers, which render possible new associations and the re-education of the cells. Twenty-four cases are described in detail, showing this substitution.

Pathogenesis of Cirrhosis of Liver with Cardiac Insufficiency. Piery.—The influence of stasis in the production of sclerosis of the liver has been investigated by Piery on twenty-four patients, with post-mortem and microscopic findings and experimental researches. He states that he has established that sclerosis of the liver, in case of weakness of the heart, is not a direct consequence of the stasis, and also that the latter alone is unable to produce sclerosis of the liver. The stasis, however, acts as a predisposing cause by the dilatation of the vessels and atrophy of the trabeculæ which it induces. This offers a favorable soil for the development of intoxications, especially alcoholism, and infections, such as tuberculosis and rheumatism. The resulting inflammation is the direct cause of the sclerosis. He describes his cases in full, 15 of what he calls "cardiac cirrhosis," and 9 of protracted asystolia with no sclerosis of the liver.

Bulletin Medical (Paris), January 5.

Simple Test of Isotonicity of Cerebrospinal Fluid. L. Bard.—Cryoscopy and other means of determining the isotonicity of the cerebrospinal fluid are, comparatively speaking, difficult and tedious measures. Bard finds that the same purpose is accomplished by mixing one drop each of the fluid and the blood of the subject. If the cerebrospinal fluid is hypertonic the red corpuscles remain intact, without even sticking together in rolls. The mixture looks like a combination of ordinary blood and artificial serum. If the cerebrospinal fluid is hypotonic, the blood mixed with it changes its character at once, the color becomes a uniform bright red and the microscope shows that the red corpuscles are dissolved.

Revue de Gynecologie (Paris), December.

Results of Surgical Treatment of Carcinoma of the Ovaries. E. Estor and P. Puech.—The mortality in 372 collected cases of cancer of the ovary was 26 per cent. from 1880 till 1890, and 21 per cent. during the last ten years; 265 were cured and 107 died, two-thirds from hemorrhage or shock. The general mortality in case of sarcoma and endothelioma was 17.3 per cent.; from carcinoma, 25.9 per cent., and from teratoma 15 per cent.; in those not confirmed by the microscope: sarcoma, 26.3 per cent., and carcinoma, 40.6 per cent. The deaths from carcinoma of the ovary are 8.1 times greater than those from sarcoma. The cases in which there were many adhesions had a mortality of 34.4 per cent.; carcinoma was complicated in this way in 76 per cent., and sarcoma in 66 per cent. When the operation required the sacrifice of some portion of an adjoining organ, the mortality was as follows: Uterus 1 in 8, intestines 3 in 4, and omentum 1 in 4. The cases show that recovery is possible at any age. Among the patients cured was a child of 20 months, and a woman of 67. The remote results of the operation were observed in 176 cases. Recurrence occurred in 59 per cent. In 40 patients, within three months; in 36, in less than a year; in 11, between 1 and three years; in 4, over 3 years, and in 4 the date was unknown. Of the 72 patients without recurrence, 28 were followed for more than 3 years; 16 between 1 and 3 years; 22 between 3 and 12 months, and 6 less than 3 months. This gives a proportion of 15 per cent. who have survived more than three years without recurrence. Among these 1 patient has been observed for 17 years, 1 for 16, 2 for 15, 4 for 12, 2 for 11, 1 for 9, 2 for 8, 2 for 7, 2 for 6, and 1 for 5 years. All those observed for more than eleven years were cases of sarcoma. Of the 54 with carcinoma confirmed by the microscope, recurrence occurred in 22, or 40 per cent.; in 111 cases of sarcoma, in 20, or 18 per cent., and in 6 cases of teratoma in 4, or 66 per cent. In 128 neoplasms not examined microscopically, recurrence was noted in 43, or 33 per cent. of those clinically diagnosed as carcinoma, and in 15 or 20 per cent. of 72 diagnosed as sarcomata. The proportion of cases of recurrence of carcinoma in the 89 cases followed was 73 per cent.; in the 83 cases of sarcomata, it was 32, or 42 per cent., and in the 4 of teratoma, 100 per cent. The tables show that early recurrence was more frequent with sarcoma than with carcinoma. No sarcoma recurred after three years had elapsed, while in carcinoma this happened in 4 cases. The report also emphasizes the greater frequency of survival without recurrence in sarcoma. Ricard gives the mortality after abdominal hysterectomy for carcinoma of the uterus as 23 per cent., and Delagenière as 15 per cent. The general mortality after operation for cancer of the ovary was only 21.3 per cent. in the cases collected above.

Drainage of Uterus in Treatment of Salpingitis. M. Beaussenat.—Walton's method of forcible dilation of the uterus, followed by curetting and prolonged drainage with a stiff rubber tube, has been applied by the writer in twenty cases of salpingitis consecutive to endometritis. The catarrhal form was always cured. This result was also frequently obtained in non-cystic, purulent salpingitis. Old and painful parenchymatous salpingitis was much improved in nearly every case. Peri-uterine infiltration may be absorbed after dilation, curetting and drainage of the uterus. The same treatment is also indicated for pyosalpinx if it is unilateral, recent, small, and has not caused many inflammatory symptoms, especially if operated on in the intervals between attacks of inflammation. The drainage is kept up from 10 to 22 days, changing the tube every second day, when the uterine cavity is irrigated with sublimate solution, swabbed out with 33 per cent. creosoted glycerin, and the vagina loosely tamponned.

Semaine Medicale (Paris), January 9.

Yeast in the Alimentary Canal. P. Nobecourt.—Brewer's yeast is being used in the treatment of furunculosis and other affections, but its action on microbes has never been thoroughly studied. Nobécourt has instituted researches in this line and finds that yeast fungi are extremely resistant to the factors to which they are exposed in the alimentary canal. The gastric juice alone is able to kill them after several hours' contact. They require a fermentable substance for a culture-medium in the alimentary canal. The possibility of the fermentation of glucose in this canal under the influence of yeast was also established. The vitality of the fungi was not impaired by contact with microbes, but the latter were affected by the fungi. The bacillus coli, proteus, pyocyaneus, typhoid and cholera vibrio, cultivated with the fungi, developed normally in contact with them, but when the fungus cultures were from two to six days old, these microbes grew very little or not at all. After this age, the cultures did not inhibit the growth of the micro-organisms. The effects in all cases varied slightly with the special fungus. Brewer's yeast diminishes the vitality of the typhoid bacillus. As the yeast fungi grow they impart acidity to the medium and maintain this acidity like a vital process. It may be directly injurious under certain conditions, and cases are cited where this acidity or the presence of fungi was a factor in the pathogenesis of certain affections of the alimentary canal, but he considers these exceptional cases, which should not prevent the therapeutic application of yeast. There is still much to be done, however, in establishing the indications.

Potassium Iodid Injection in Treatment of Eclampsia.—Bolle.—The disease analogous to puerperal eclampsia, which affects cows, is frequently fatal. A Danish veterinarian conceived the idea that the affection was due to toxins generated in the milk, and treated it by injecting potassium iodid into the mammary glands. Of 412 cows thus treated, 90 per cent. recovered, while the mortality had previously ranged from 40 to 66 per cent. Bolle has applied the same treatment to 15 patients with puerperal eclampsia, injecting 5 to 6 gm. of potassium iodid into the mamma or vicinity. All recovered except one in whom the treatment was not commenced until after the fifth paroxysm, with pronounced icterus and paralysis. The effect of the iodid is not evident for six hours, consequently it should be applied at an early stage, and possibly as a harmless preventive measure at the first suggestion of eclamptic symptoms.

Improvement in Celluloid Casts. Hersing.—When celluloid is softened in acetone, as usual, it requires several hours to harden. Hersing has discovered that if the strips of celluloid are dipped in hot alcohol they become so soft in two or three minutes that they can be applied at once, while in fifteen minutes they are as stiff again as before they were immersed in the alcohol. He uses strips of celluloid 5mm. thick and nearly four feet long by several inches wide for immobilization of cases of hip joint disease. The cast is so elastic that it can be removed and replaced intact.

Allg. Med. Cent. Ztg. (Berlin), December 22.

Bone Necrosis in Rubber Factories. Lazarus.—Twenty young women employed in the manufacture of rubber goods, exhibited a necrotic process in the jaws and teeth, similar to that observed in match factories. Lazarus calls this condition "rubber necrosis."

Berliner Klin. Wochenschrift, December 31.

Experimental Alopecia from Thallium Acetate. A. Buschke.—It has been noticed that the administration of thallium acetate to consumptives for night-sweats, has caused the hair to fall out. Buschke has confirmed this curious property of this substance by experiments on animals. The hair dropped off in patches or generally. He considers this phenomenon due to a neurotrophic influence of the drug, which also explains its action on night-sweats.

A Vascular Spinal Affection. F. Brasch.—In a severe case of nervous spinal disease which terminated fatally in two years, the causal lesion proved to be a dilatation, lengthening and winding course of a trunk vessel in the spinal cord, below the roots of the fifth dorsal nerve. It divided in the lumbar region, pursued a tortuous course, and was so enormously dilated that it assumed an aneurysmatic character. Hypertrophy of the heart was probably the primary factor.

Deutsche Med. Wochenschrift (Leipsic), January 17.

Vaginal Route in Operating for Tubercular Peritonitis. G. Baumgart.—The details of the 36 cases mentioned in the preceding issue are published in this communication. Of the 24 operated on more than two years ago, 17 were treated by abdominal section, with 64.7 per cent. complete recovery; 5.8 per cent. improvement and 29.4 per cent. mortality. The percentage of recoveries and improvements was practically the same in the seven cases in which the peritoneal cavity was entered through the posterior vaginal fornix, and Baumgart urges the superior advantages of the latter procedure in the treatment of tubercular peritonitis. He calls attention to the important information to be derived from rectal palpation, not only for diagnosis, but in the supervision of the process of recovery.

Tests of Renal Function. L. Lipman-Wulf.—The methylene blue test of the function of the kidneys produced widely different results in the experimental researches here reported. The only point that seems to be definitely established by them is that the stain is excreted through the epithelium of the convoluted tubules and Henle's loops, before it reaches the urine proper. None was ever found in the Malpighian corpuscles.

New Sensitive Test for Sugar. E. Rieger.—One gram of pure white phenyl-hydrazin hydrochlorate is placed in a shallow porcelain dish about 3 cm. in diameter. To this 5 gm. of sodium acetate are added and 1 c.c. of the sugar solution or urine. The dish is held over a spirit lamp until the contents are dissolved and begin to boil. It is then replaced on the table and 20 to 30 drops of a 10 per cent. solution of soda are added without moving the dish. The fluid turns a reddish-violet if there is sugar present, if there is no sugar the fluid merely shows a pinkish tint in the course of fifteen to thirty minutes. The red-violet stain must appear in less than a minute to denote a pathologic amount of sugar. The only precaution to be taken is to see that no other aldehyds are present, as they produce the same reaction as sugar.

Therapie der Gegenwart (Berlin), January.

Quinin Treatment of Typhoid Fever. W. Erb.—Quinin proved ineffectual in only one-seventh of the 200 cases of typhoid fever treated by Erb during the last ten years. In all the rest he was impressed with its favorable action, not merely as an antipyretic but in shortening the disease and modifying its manifestations. He commences to give it about the eleventh day, at 7 or 8 p. m., after the maximum temperature has been reached, administering 1 to 1.5 gm.—very rarely 2 gm.—in two doses close together. He continues it every second day thereafter until defervescence. The cases that resisted were all extremely severe, with complications.

Alcohol in Infectious Diseases. C. Fraenkel.—In a series of experiments on dogs, guinea-pigs, hens, pigeons, etc., conducted by Laitinen, under Fraenkel's directions, it was found that alcohol increased the susceptibility of these animals to infections and toxins. Fraenkel reviews his work and concludes that the administration of alcohol in infectious diseases is, to say the least, not an insignificant matter.

Treatment of Leg Ulcers. C. L. Schleich.—Peptone has completely banished plaster at Schleich's clinic for all cases in which a compressing and immobilizing bandage is required. It requires no padding beneath, can be worn for weeks or months, and, in its adhesiveness, porosity and solubility, surpasses all other substances known to date. He has found it peculiarly adapted to ulcers of the leg, and recommends it as satisfactory in every respect. After cleaning the ulcer, the leg is smeared thick with the peptone paste and cambric bandages applied, winding from the toes upward to the knee, with a starch bandage outside. The paste cools so slowly that it adjusts itself to the surface, and he has never noted any interference with the circulation. The bandage is changed in five or six days.

Wiener Med. Wochenschrift, December 22.

Prevention of Otitis After Measles. S. Weiss.—During a recent extensive epidemic of measles, the number of cases complicated by otitis was reduced from 27.7 to 6.6 per cent. by measures adapted to remove the accumulations of mucus from the nose and to keep the nasal passage clear. The nose was swabbed back to the posterior wall of the pharynx with a 1 per cent. salve of yellow precipitate, or the nostrils were plugged with cotton moistened with a few drops of a 5 per cent. solution of silver nitrate, the patient lying on his back and squeezing the nostrils together for a few moments. This application was repeated four times a day.

Gazetta Degli Osp. (Milan), December 2, 16.

Surgery of the Brain. Durante.—One of the two operations to remove a tumor on the brain was unsuccessful—no improvement was evident and the patient, a young man, died in coma four months after a second operation. The influence of a tumor in the anterior frontal lobe, in altering the moral character, was very marked in this case. The other patient was a child of 18 months and the tumor, located in the post-Rolandic zone by the symptoms, was found and successfully removed. He is now in perfect health. The tumor was a dural fibrosarcoma. Roncati found blastomycetes in it, as had been observed by other authors in malignant tumors. The fact that blastomycetes can not be isolated and cultivated from them is not surprising, as when they assume the form known as Russell's corpuscles, no cultures can be derived. Blastomycetes will always be found in malignant tumors, Durante asserts, if they are sought for with skill and patience. The coccidii that have been found are in reality blastomycetes, and the latter are the actual etiologic factors of sarcoma and epithelioma.

Spinal Analgesia. Bastianelli.—In 36 operations with the aid of spinal cocainization the analgesia was incomplete or entirely absent in 12. The dose was 1 c.c. of a 1 per cent. solution of cocain. In one case there was serious collapse, and in another violent headache for a week. There was more or less intense and protracted headache lasting for variable periods in every case.

Preservation of the Ovaries After Hysterectomy for Myofibromata of the Uterus. Pascale.—For three years Pascale has been making a special clinical and experimental study of the changes in the ovaries after complete ablation of the uterus for myofibroma. He invariably noted disturbances in the circulation, mostly mechanical, evidences of degeneration and processes of atrophy—a premature senility, which gradually overwhelmed the organ. The degeneration proceeds most rapidly in the parenchyma, while the epithelium does not degenerate with it at first, and this loss of balance between the two parts is probably the reason for the alteration of the ovary, in which it gradually loses its specific characteristics and its functionating power.

Action of Iodin in Tubercular Peritonitis. Biagi.—Six cases of tubercular peritonitis are reported; all were cured by local injections of 1 to 3 cgm. of iodin a day. The absorption of the fluid was very slow. Ninety-three injections were necessary in one case. The iodin was given in Durante's iodin iodid mixture. This communication was presented at the Italian Congress of Surgery two months ago, and others confirmed the results obtained with it and with Sclavo's iodized milk. It is possible to inject as much as 25 cgm. a day of the latter without pain. In some of the cases the cure has lasted for five years. The iodin is not a specific. but merely assists the organism to increase its powers of resistance.

Experimental Infection in Fasting Animals and Serotherapy. G. CASTRONUOVO.—Experiments on animals at the Naples clinic, in charge of De Renzi and Pane, show that fasting may hasten the fatal termination of infections. Specific serotherapy in experimental pneumonia is unable to save the animal when the infection is *too far advanced*, but in an early stage it is invariably checked and the animal recovers. Antidiphtheria serum, mixed with diphtheria *toxin in* such amounts as to neutralize a given quantity in the organism, is unable to produce this neutralization in fasting rabbits and death occurs.

Queries and Minor Notes.

PHOTOMICROGRAPHS.

OMAHA, NEB., Jan. 29, 1901.

To the Editor:—I write to obtain information relative to the making of some micro-photographs. The sections, from a tumor, are stained and mounted. I would like to have a number of negatives taken from which to select the ones I desire: I wish to have four and possibly five. Should I decide to have these micro-photographs colored can you tell me the probable cost and where I can have this work done in the most satisfactory manner? Very truly yours, J. E. S.

ANS.—In the first place, the term microphotograph is incorrect. Photomicrograph is what the writer evidently means, as microphotograph has a quite different signification. In all probability there are in every large city men who can do the work required above, but the only one we are at present able to refer the enquirer to, is Dr. W. H. Knap, 603 Stewart Bldg., Chicago. The coloring can be done by hand only. A rough sketch of the field desired should accompany the *slides; the particular tissue or* cells that the sender wishes brought out most clearly in photograph should be indicated.

PRACTICE IN OKLAHOMA.

BLUE HILL, NEB., Jan. 25, 1901.

To the Editor:—What is the law governing the practice of medicine in Oklahoma Territory? W. C. F.

ANS.—Oklahoma requires that the applicant shall be a graduate of a reputable medical college, of good moral character, and not a habitual drunkard. Presentation of diploma or proof by affidavit, if the same is lost or destroyed, and an affidavit from two reputable citizens in the county where he resides that he possesses the qualifications of a physician, to the *superintendent of the public* health, will obtain a license; otherwise an examination will be required.

ODOR OF MORPHIN.

KANSAS CITY, MO., Jan. 27, 1901.

To the Editor:—Does morphin impart to the breath of one addicted to the use of it, an odor by which it may be recognized? If so, what is it? Will you kindly give briefly the *etiology, pathology*, symptoms and treatment of strokers' cramps? G. B. T.

ANS.—Referred to our readers.—[Ed.]

TUBERCULOSIS TRANSACTIONS.

INDIANAPOLIS, IND., Jan. 28, 1901.

To the Editor:—Where and at what cost can the transactions of the last Congress of Tuberculosis (Germany) be secured? L. B.

ANS.—The Transactions of the Berlin Congress of Tuberculosis are not published in this country, and the bulk of the papers are in German or French. A copy can be obtained through any importing bookseller at a cost of between $3 and $4.

Change of Address.

F. J. Adams, 356 State St., to 325 Fairfield Ave., Bridgeport, Conn.
E. S. Albee, Kansas City, Mo., to 533 W. Monroe St., Chicago.
E. Villiers Appleby, St. Paul, to Duluth, Minn.
A. S. Ashmead, 65 W. 12th St., to 350 W. 23d St., New York City.
G. E. Bellows, Riverside, Cal., to 1810 E. 31st St., Kansas City, Mo.
W. H. Born, Lyons, to McRae, Ga.
C. Van Benschoten, S. Chicago, to 6303 Monroe Ave., Chicago.
J. Beisman, 147 Adams Ave. E., to 156 Montcalm St. E., Detroit, Mich.
W. W. Brown, Genoa Junction, to Leeman, Wis.
E. A. Colley, 304 N. 8th St., to 407 Christian College Ave., Columbia, Mo.
G. W. Crile, 275 Prospect St., to 169 Kensington St., Cleveland, O.
C. O. Decker, 606 Grand Ave., to Milwaukee Medical College, Milwaukee, Wis.
J. B. Doan, 393 Vance St., to 138 St. Paul St., Memphis, Tenn.
W. H. Douglass, Rush Hill, to Benton City, Mo.
A. J. Driskill, Grand River, to Marion, Ky.
N. W. Foster, 546 Mississippi St., to 876 Payne Ave., St. Paul, Minn.
M. R. Gage, Elroy, Wis., to Biloxie, Miss.
J. L. Gish, La Porte, to 215 W. Jefferson St., South Bend, Ind.
E. M. Houghton, 764 Champlain St., to 305 Penn Ave., Detroit, Mich.
G. H. Hocking, Govanstown, to York Road, Station H. Baltimore, Md.
C. J. Holman, Chicago, to St. Clair, Minn.
R. H. Hannah, Cashion, to Bellemont, O. T.
Chas. O. Hook, Chicago, to La Salle, Ill.
G. V. Hackney, 1409 Troost Ave., to University Medical College, Kansas City, Mo.
J. M. Hamblin, St. Joseph, to Westboro, Mo.
O. F. Howe, Graball, Tex., to 716 Campbell St., Kansas City, Mo.
H. T. Irving, 79 N. 3rd St., to 67 W. Main St., Newark, Ohio.
D. W. Jones, Jr., Hazlehurst, to Hermanville, Miss.
A. P. Jensen, 681 Van Buren St., to 240 Winchester Ave., Chicago.
Geo. E. Kincaid, St. Louis, Mo., to Box 11 West Liberty, Iowa.
C. S. Kinzer, Wytheville, to Interior, Va.
A. V. Lodge, Erie to Savonburg, Kan.
G. W. Launspach, Sioux City, Iowa, to Fulton, S. D.
A. C. Lippincott, Columbiaville, N. Y., to Columbia Falls, Maine.
J. W. Leonard, 517 Bush St., to 502 N. 11th St., St. Joseph, Mo.
Hugh H. Lorimer, Fair Haven, to Iberia, Ohio.
E. J. Miller, Ashton, to Sycamore, Ill.
P. V. Mikell, Lady and Sumter Sts., to 1224 Plain St., Columbia, S. C.
W. T. Newman, 467 Madison St., Memphis, Tenn., to Gillsburg, Miss.
Ida M. Nulton, Hartford, to Columbia, Mo.
E. N. Nash, 126 S. Oak Park Ave., to Cook County Hospital, Chicago.
W. J. Omer, Lamoni, Iowa, to Pana, O. T.
S. F. Porter, 904 Cedar St., to 1031 Jefferson St., Nashville, Tenn.
H. W. Queen, Mercerville, to South Solon, Ohio.
C. L. Reason, 126 Hamilton St., to Health Office, City Hall, Cleveland Ohio.
Paul Van Riper, Niles, to Champion, Mich.
H. W. Rice, 1425 Plain St., to 1205 Gervais St., Columbia, S. C.
I. R. Schoonmaker, Providence, R. I., to Hallstead, Pa.
J. L. [illegible] to Wayland, Tex.
I. C. [illegible] 'enn., to Colvin, Tex.
R. W. [illegible] to Starrucca, Pa.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., *Jan. 17 to 23*, 1901, inclusive:

Harry D. Belt, acting asst.-surgeon, former orders directing him *to proceed to Manila on the transport Wright*, revoked; leave of absence granted.

William C. Borden, captain and asst.-surgeon, U. S. A., member *of a board at Washington Barracks, D. C., to examine officers of* the army for promotion.

Lawrence C. Carr, major and surgeon, Vols., on expiry of present leave of absence to proceed to Havana, Cuba, for duty in the Department of Cuba.

Frederick W. Coon, acting asst.-surgeon, relieved from duty in the *Department of Cuba; to proceed to San Francisco, Cal.*, for duty with troops en route to Manila, P. I., and subsequent assignment in the Division of the Philippines.

A. E. Disney, *acting asst.-surgeon*, from Washington, D. C., to San Francisco, Cal., for temporary duty at the general hospital, Presidio of San Francisco.

Herbert I. Harris, *acting asst.-surgeon*, member of a promotion board at St. Paul, Minn., vice Lieut.-Col. Calvin DeWitt, relieved from duty on the board.

William M. Hendrickson, *acting asst.-surgeon*, from Fort Flagler, to duty at Fort Casey, Wash.

John Van R. Hoff, major and surgeon, U. S. A., member of a board at Washington, D. C., *to examine medical officers* for promotion.

James P. Kimball, lieutenant-colonel, deputy surgeon-general, U. S. A., *president of a promotion board convened* at Omaha, Neb.

Louis A. LaGarde, major and surgeon, U. S. A., member of a board at Washington, D. C., to examine medical officers for promotion.

Matthew W. Leepere, acting asst.-surgeon, member of a board at Omaha, Neb., to examine officers of the Army for promotion.

Arthur W. Morse, *acting asst.-surgeon, from* Odell, Ill., to San Francisco, Cal., for duty in the Department of California.

Edward L. Munson, captain and asst.-surgeon, U. S. A., member of a board at Washington Barracks, D. C., *to examine* officers of the army for promotion.

Walter Reed, major and surgeon, U. S. A., on the adjournment of the Pan-American Medical Congress at *Havana*, Cuba, to Proceed to Washington, D. C., for the purpose of continuing his investigations at the Army Medical Museum with reference to the cause and prevention of yellow fever.

William E. Richards, lieutenant and asst.-surgeon, U. S. A., resignation accepted, to take effect Feb. 3, 1901.

Anton R. Schier, acting asst.-surgeon, *orders directing* him to proceed from Burlington, Iowa, to San Francisco, Cal., for duty with troops en route to Manila, P. I., revoked.

Dwight B. Taylor, acting asst.-surgeon, member of a promotion board at Columbus Barracks, Ohio.

Jesse P. Truax, acting asst.-surgeon, now en route to Fort Casey, Wash., will proceed to Fort Flagler, Wash., to relieve A. A. Surgeon W. M. Hendrickson.

Sanford H. Wadhams, lieutenant and asst.-surgeon, U. S. A., member of a promotion board at Columbus Barracks, Ohio.

Allie W. Williams, acting asst.-surgeon, leave of absence granted, with subsequent assignment to duty at Fort Columbus, N. Y.

Alfred A. Woodhull, lieutenant-colonel, deputy surgeon-general, U. S. A., president of a board convened at the Army Medical Museum, Washington, D. C., to examine officers of the Medical Department as to their fitness for promotion.

In addition to the above, the following medical officers, captains and asst.-surgeons, U. S. A., were ordered to Washington, D. C., for examination for promotion: Charles M. Gandy, Jefferson R. Kean, Henry I. Raymond, Edward R. Morris, Leonard Wood, Jefferson D. Poindexter, and Charles E. Woodruff.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Jan. 26, 1901:

Asst.-Surgeon C. N. Fiske, detached from the *Wheeling* and ordered to the *Mohican* when the former is put out of commission.

Asst.-Surgeon H. C. Shiffert, appointed assistant-surgeon from Dec. 26, 1900

Medical Inspector D. N. Bertolette, detached from the medical examining board, Washington, and ordered home, Jan. 31.

Surgeon A. C. H. Russell, ordered to Washington, for duty as a member of the medical examining board, Jan. 31.

Surgeon W. H. Rush, ordered to the Pensacola Naval station for recruiting and other duty.

P. A. Surgeon R. K. Smith, detached from the *Pensacola,* Feb. 2, and ordered to the *Wisconsin,* Feb. 4.

Asst.-Surgeon M. V. Stone, detached from the *Solace* and ordered to the *Isla de Luzon.*

Asst.-Surgeon H. H. Hass, detached from the *Isla de Luzon,* and ordered to the *Solace.*

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Jan. 24, 1901:

Surgeon George Purviance, granted leave of absence for two days.

Surgeon L. L. Williams, granted leave of absence for three days.

A. A. Surgeon L. C. Bean, granted leave of absence for two days from Jan. 18.

A. A. Surgeon R. C. Craig, granted seven days' extension of leave of absence.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the surgeon-general, U. S. Marine-Hospital Service, during the week ended Jan. 26, 1901:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, Jan. 12-19, 2 cases.
Florida: Jacksonville, Jan. 12-19, 7 cases.
Illinois: Cairo, Jan. 5-19, 5 cases; Chicago, Jan. 12-19, 12 cases.
Kansas: Wichita, Jan. 12-19, 6 cases.
Kentucky: Lexington, Jan. 12-19, 2 cases; Louisville, Jan. 4-18, 1 case, 1 death.
Louisiana: Jan. 12-19, New Orleans, 7 cases, 2 deaths; Shreveport, 5 cases.
Massachusetts: Lawrence, Jan. 12-19, 1 case.
Minnesota: Minneapolis, Jan. 12-19, 11 cases; St. Paul, Jan. 5-12, 8 cases.
Nebraska: Omaha, Jan. 8-15, 7 cases.
New Hampshire: Manchester, Jan. 12-19, 39 cases.
New Mexico: Fort Stanton, Jan. 14, 1 case.
New York: Jan. 12-19, New York, 9 cases, 5 deaths; Utica, 1 case.
Ohio: Cincinnati, Jan. 12-18, 3 cases; Cleveland, Jan. 12-19, 57 cases, 1 death.
Oklahoma: Sixteen Counties, Jan. 11, 289 cases.
Pennsylvania: Jan. 12-19, Erie, 1 case; Pittsburg, 3 cases.
Tennessee: Memphis, Jan. 12-19, 6 cases.
Texas: Houston, Jan. 12-19, 44 cases.
Utah: Salt Lake City, Jan. 12-19, 32 cases.
Wisconsin: Green Bay, Jan. 13-20, 1 case.

SMALLPOX—FOREIGN.

Belgium: Liege, Dec. 15-22, 1 case.
Brazil: Pernambuco, Dec. 8-15, 34 deaths.
Egypt: Alexandria, Dec. 17-24, 2 cases, 2 deaths.
England: Leeds, Jan. 5-12, 1 case; London, Dec. 29-Jan. 5, 1 case.
France: Paris, Dec. 29-Jan. 5, 6 cases.
India: Bombay, Dec. 18-25, 1 death.
Mexico: Vera Cruz, Dec. 29-Jan. 5, 3 deaths.
Scotland: Edinburgh, Dec. 29-Jan. 5, 1 case; Glasgow, Jan. 4-11, 66 cases, 3 deaths; Leith, Dec. 29-Jan. 5, 1 case.
Straits Settlements: Singapore, Dec. 1-18, 2 deaths.

YELLOW FEVER.

Colombia: Cartagena, Jan. 1-7, 2 cases.
Cuba: Cienfuegos, Jan. 14, 1 case; Havana, Jan. 5-12, 2 deaths.
Mexico: Vera Cruz, Dec. 29-Jan. 5, 1 death.

CHOLERA.

India: Bombay, Dec. 18-25, 4 deaths.
Straits Settlements: Singapore, Dec. 1-18, 58 deaths.

PLAGUE.

India: Bombay, Dec. 18-25, 118 deaths.
England: Hull, Jan. 19, 5 deaths on S. S. *Friary.*
Russia: Tsarevsk district, Jan. 5, 19 cases, 15 deaths.

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NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

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